

**“NO TOTTAKAI SE ON TÄYNNÄ TÄTÄ TIETEIDEN  
KIELTÄ” - FINNISH TEACHERS’ PERCEPTIONS OF US-  
ING ENGLISH AND THE LANGUAGE OF THEIR SUBJECT**

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<p>Abstract</p> <p>Tämä tutkimus selvitti suomalaisten CLIL-aineenopettajien (CLIL, Content and Language Integrated Learning) käsityksiä oppiaineen omasta tiedonalakohtaisesta kielestä sekä vieraan kielen vaikutuksesta siihen ja toisinpäin. Oppiaineissa käytettävä kieli eli tiedonalojen kieli on paljon tutkittu, mutta yhä laajalti aliymmärretty ilmiö, joka kuitenkin läpäisee kaikki oppiaineet ja -asteet. Myös vieraskielinen aineenopetus CLIL on vuosikymmeniä käytössä ollut opetustapa ja kansainvälisesti hyvin tutkittu ja dokumentoitu ilmiö. Nämä kaksi tutkimuskohdetta eivät kuitenkaan ole aikaisemmin kohdanneet, ja ottaen huomioon, että CLIL:ssä tiedonalan kieli on luonnollisesti myös vieraalla kielellä, tällainen yhdistys oli äärimmäisen oleellista tehdä.</p> <p>Tutkimus toteutettiin haastattelemalla kahta (2) yläkoulun aineenopettajaa eri oppiaineista ja eri paikkakunnilta tammi-helmikuussa 2022. Osallistujat haastateltiin etänä videopuhelujen välityksellä, ja näistä puheluista säilytettiin tutkimuksen ajaksi ääniraidat, jotka litteroitiin. Näistä haastatteluista tehtyjen litterointien pohjalta suoritettiin aineiston laadullinen sisällönanalyysi ja löydettiin viisi teemaa, jotka yhdistivät molempia haastateltavia ja tarjosivat relevantteja vastauksia tutkimuskysymyksiin.</p> <p>CLIL-opettajien oletettiin olevan erityisen perillä tiedonalan kielestä, sillä he opettavat aineensa lisäksi lähtökohtaisesti enemmän kieltä kuin keskimääräinen aineenopettaja. Vertailua ei tässä tutkimuksessa tehty, mutta osoittautui, että näiden opettajien käsitys kielestä opetuksessa oli hyvin moninainen ja englanninkielisyys oli näissä prosesseissa keskiössä. Tutkimus osoitti haastateltavien olevan perillä tiedonalan kielen käytöstä ja konventioistakin, mutta sen tarkempi analysointi ja välittäminen oppilaille näyttivät olevan tämän tutkimuksen teoriataustaa vasten tarkasteltuna puutteellisia. Monet prosessit liittyen oppiaineen kieleen toimivat osin opettajien tiedostamatta, mutta kaiken kaikkiaan voidaan sanoa heidän olevan hyvin perillä oppiaineidensa tiedonalankielisyydestä.</p> <p>Mainittujen puutteiden ei voida katsoa olevan opettajien, vaan enemmänkin heitä tukemattoman koulujärjestelmän ja kasvaneiden vaatimusten syytä. Tästä syystä siis tutkimus aiheeseen liittyen ja aiheenmukainen koulutus opettajille ja opettajaopiskelijoille onkin ensiarvoisen tärkeää, jotteivat tulevaisuuden CLIL- ja muut opettajat joudu taistelemaan tiedonalan kielten kanssa yksin.</p>	
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# 1 INTRODUCTION

This study investigates the worlds of Content and Language Integrated Learning (CLIL) and subject-specific language. Let's first peek at what they are. CLIL is, in short, teaching content, such as Swedish or physics, in a foreign language. Subject-specific language then is the practical language use with which teaching a subject is done: the language in which the content is conveyed to students. Any teacher is a teacher of a subject-specific language, and any CLIL-teacher does that in a foreign language. That means that there is a fine and complex process of how to communicate going on at the background of teaching; albeit a process that is shared by all, still unique in every single instance. This is what the present study is about. The present study tackles issues and theories that are widely researched to begin with and thus tries to combine these approaches in a way that is new. This study is about the perceptions that Finnish teachers of English-medium content have of the language of their respective subjects being taught and how they grasp foreign language being a factor in that.

The motivations for this study are borne out of both personal interests and future desires of the author, but also of an academic need for such insight. The personal aspect here is a fascination towards the intertwining of content matter, that is, information of the world and language, via which all information arguably travels. This inevitable connection and its uses are further developed in studying subject-specific language or foreign-language teaching: both of which the author plans to do in the future. Understanding how foreign language affects information change even slightly is thus seen here as a major boost for personal understanding of teaching anything. The applications of this understanding are useful in the field of language teaching, whilst that profession is relevant to the author, but also opens possibilities in collaboration with other subjects. As far as research is concerned, a gap in existing studies was hypothesized and a relevant niche was in fact found, as no earlier study made the connection between CLIL and subject-specific language. This way the academic motivation for this study is underlined with wanting to find a way to combine the two branches of inquiry in language teaching.

The main characteristic can be laid out here: this is a qualitative study of participants' ideas, which are analyzed through qualitative content analysis and thematic

analysis, in relation to the theoretical background. The study is divided into different parts for attainability: the theoretical framework, the methodology, the findings from the gathered data, discussion and conclusion. The theoretical framework presents the reader with an understanding of the two key concepts: Content and language Integrated Learning (CLIL) and subject-specific language. After having brought up a picture of what those are, the framework moves on to determine how these phenomena are in contact with each other in the world of education. This sets the tone and terminology for what is asked from the participants of this study and how their answers are to be analyzed. The methodology-chapter presents more precisely how this study is conducted via semi-structured interviews and why certain methods are chosen. The research questions are the following pair: 1) In the field of CLIL, how do teachers conceptualize the subject-specific language of the subject they teach? and 2) How do CLIL-teachers perceive the interaction between the foreign and the subject-specific languages? To show then what is found in the study, the Findings-section provides the reader with the results of the thematic analysis of the interviews. Furthermore, it is of essence to see how those answers are connected with each other, hence the thematic analysis, and with the theoretical principles guiding the thinking in this study. Discussion and conclusion combine all that is said previously and connects the study to the greater scheme of things, to a meaningful extent. This includes marking possible errors, issues, benefits, and further interests revealed after completing the present study.

So, to conclude the Introduction, welcome all who wish to learn about CLIL, subject-specific language and how these two might be connected. Next up, the theoretical background.

## **2 THEORETICAL FRAMEWORK**

### **2.1 Defining Content and Language Integrated Learning (CLIL)**

Content and Language Integrated Learning or CLIL, as it is usually abbreviated, is a pedagogical approach that combines language teaching and teaching of content matter. In layman's terms that would roughly mean doing things with the language rather than about the language. Content matter should here be understood as subjects that schools teach: mathematics, history, chemistry, home economics and the like. As Coyle et al. (2010) describe it, content matter in CLIL, in the regular context of schools, is tied together with the teaching of language so that neither one is more important nor predominant. Roiha (2019) maintains that CLIL is the overarching nominator of all the educational approaches done to this end and includes therefore all possible takes in combining content and language. This is because no content teaching is done without language and thus, all teaching combines subjects with language use, in the case of CLIL that combination is more specific: with the foreign language. To put this in the words of the Finnish National Core Curriculum (2014: 22), the students' multi-literacies are to be exercised and developed in all subjects. This development quite plainly refers to the optimal education being language aware and teaching language use in all subjects, an end CLIL serves well. However, CLIL is about foreign language teaching, so strictly speaking it does not represent the whole of schooling. Here it must also be clearly communicated that with CLIL-teachers is meant specifically, subject teachers who utilize English in their teaching. The classes where this is done are primarily ones where the students do not have English as a native language either. In this way, to teach CLIL, one must also teach the language. To sum up these starting points, CLIL infuses language teaching and content teaching and is not as far away

from reality as the abbreviation might make it sound: CLIL is everywhere in education if looked at broadly enough.

To make the introduction to the anatomy of CLIL clearer for those who are familiar with the field, this paragraph will offer some insight into the debate on terminology. According to Cammarrata & O’Ceallaigh (2020), Coyle et al. (2010) and Stryker & Leaver (1997), the main parallel systems of CLIL are: Content-Based Instruction (hereafter CBI) and immersion/bilingual programs (hereafter I/B). The most vital difference between the three approaches is merely the location of their starting points. For the earliest one of these, I/B-programs, that lies in the French-speaking communities of Canada. From that example the approach has been coined in the rest of North America through CBI and in the 1990s in the European Union, where it was decided that the approach should be called CLIL. This study will, because of its immediate European surroundings use this term. To put out where the present work stands, as far as practices and theories go, CBI and I/B are close relatives of CLIL and cannot be thought of as inferior or even that different. This terminology distinction is made purely for the sake of clarity as this study will not chase the historical underpinnings of these approaches any further.

## **2.2 The position and relevance of CLIL in Finland**

Nikula and Järvinen (2013: 146) mapped the Finnish field of CLIL at the time. It is pointed out by them that English is the primary medium of CLIL (Swedish or Finnish do not count here as they are national languages of Finland). The English-language bias in CLIL implementation forms the reasoning for language-choice for this study as well. This notion is backed by the National Core Curriculum (2014), which demonstrates that the language of CLIL is most often the “A1”, meaning the primary language of foreign language education. In the Finnish schooling system that language is usually English. Hence, teaching CLIL in English becomes the natural focus of the present study.

Nikula and Järvinen’s (2013: 147-148) work continues with the notion that the number of CLIL education programs has been on the decline for the first decades of the millennium and is chiefly located in bigger city schools that have resources to build a continuum. The main operators are most often elementary schools, which poses a problem for the said continuum. The situation thus seems to be that elementary schools in bigger cities are the winners of CLIL-education, while for the rest of schools and towns it is merely an afterthought.

Where foreign language learning is concerned, it is safe to say that additional CLIL lessons on top of language classes have a positive outcome. Then again, content can be argued to be taken in as well, per van de Craen et al. (2007), which is naturally a massive premise for this study. This revelation stems from the understanding that if CLIL is both as diverse and multi-purposed and as efficient as described, it offers probably the best viewpoint into language in education. Would it not meet up with educational standards, such a study would not be so justifiable. Interviews of CLIL teachers will then allow for a deeper understanding of how exactly the foreign language affects learning content matter.

In the National Core Curriculum (2014: 88-89), it is also said that CLIL should always be implemented jointly by teachers and the wider school community, meaning other personnel as well. The National Core Curriculum serves as the one document to administer Finnish education and it has a section for CLIL/bilingual education. It is stated there that such education shall not have a lessening impact on the content matter learned. Furthermore, these practices should then be made a school-wide communication policy. As grand as that sounds, whether that is possible to a meaningful level, is contested by the research on CLIL-teachers having troubles with materials, time and professional solitude. (see Pappa et al., 2017.) Teachers' language proficiency requirements are brought up as well, with the intention of having fluent teachers in these positions. Pappa et al. (2017) further note that teachers rely on their creativity and do not have materials in abundance when designing CLIL. This coupled with the high expectations on fluency in the target language imposes further restrictions to the personnel involved in CLIL. With the programs dwindling and centering in bigger city schools, it is safe to say that a meaningful future of CLIL is under many threats. Therefore, further research is needed, and the present study will do its part in shedding light over what teachers think about real-life CLIL.

Skinnari (2020) set out to interview CLIL-teachers' ideas on their agency in implementing foreign language education in Finland, Austria and Spain. Through that research, it is evident that the teachers are left to fend for themselves, and that CLIL-work is expected of them as soon as they have begun implementing it. The study reveals the teachers' lack of faith in the pedagogical reasoning for using a foreign language with the subject matter, which is highly interesting as it is upsetting. As this study aims to find out how content matter plays out through the foreign language, it is of utmost importance to understand how the teachers feel about its use. Teachers being abandoned with CLIL-programs is "the name of the game", which Pappa et al. (2017: 25-26) also acknowledge by advocating for a more collaborative approach. This approach is however, stated as a given in the National Core Curriculum, as alluded to earlier in this section. These contradictory notions are, however, not the main conversation within the present study. More work on the divide between curricular

and practical work might be helpful but this study will not take that notion any further.

CLIL-teachers have been asked about their identities, teaching methods and planning before and Nikula & Järvinen explain that they are most often cited wishing for more professional backup, more time for planning and more training as language teachers. Many teachers have apparently had self-reported problems with using the foreign language in a way that fits their high standards. These high standards have also been visible in society and CLIL research (Nikula & Marsh, 1997). If every involved party thinks CLIL requires utmost fluency, it is somewhat stressful for them all and limits the personnel who would even consider such an approach in their teaching. This said disparity can be seen to be linked with the teachers' unenthusiasm about the actual language use in their classes, as mentioned above.

To wrap up CLIL as a theme it could be summarized that in Finland, teachers are unevenly supported and to put it plainly, the work centers around English. With subject teacher backgrounds and limited, if any, education in the field of language teaching or CLIL, these teachers, the focus group of this study, are faced with both great possibilities and challenges in this profession.

### **2.3 Defining “subject-specific language”**

Subject-specific language might in many sources be also addressed as *disciplinary language/literacy*. Discipline as a concept is perhaps farther reaching than “subject” and because the present study is interested in the world of basic education, subject is chosen as the more preferred wording. For clarity and for fitting in to the context of schools, the present study will prefer “subject-specific language” as the backbone of its fundamental terminology.

Subject-specific language is a term used to describe the language use that is more prevalent within a given subject than anywhere else. In school terms that would mean the language of mathematics, science, history et cetera. Nikula (2015) evaluates the phenomenon neatly by saying that subject-specific language is most visible through vocabulary and its use: some words are infrequent in everyday speech, yet essential for a certain field of inquiry. For an example, a word such as ‘*treaty*’ (an agreement or arrangement made by negotiation”, Merriam-Webster.com, 2021) serves well: in a foreign language learning context, this word might not struck anyone as an essential, however when learning about political history of the 20<sup>th</sup> century through the English language, the word gets a central role. In this respect, the subject-specific language of CLIL might already look like something else than that of content lessons (different language of instruction) or language lessons (different scope of learning).

Beck et al. (2002: 8-9) allot words into three tiers of usage: tier one being the most basic and commonly used, such as '*a baby, a car, to say*' and so on. Tier three would then be highly specific words, like '*covalence*' or '*semiotic mobility*'. Tier two-words then are all those that fall between these categories, words that carry specific or complex meanings and that are present in both specific and general domains. Utterances such as '*evolution, to extrapolate*' and so on. This is to say that these Tier two-words can be highly specific but that they are also within the common tongue and everyday speech. Tier three is reserved to words used in highly specific contexts for specific, narrowed-down meanings. In their categorization, the word '*treaty*', which will be used as an example in the following illustration, would probably be a Tier three-word, meaning a specialized utterance used in a certain genre, most often political history. Tiers one and three are thusly presented as the defining categories that then leave Tier two between them, which might seem illogical and untangible at first glance. This categorization of vocabulary by means of semantic meaning, pragmatic usage and frequency of use is a crude, but efficient way of looking at a language repertoire and assigning functions to it. The next paragraphs will talk more about how this notion should be used and understood within this study.

These tiers are not necessarily easily defined, and some words might fall into two categories (or even all three if their use is multipurposed enough). Also, in the foreign language learning context, such as the Finnish CLIL classroom, the tiers that English words are placed could presumably vary as compared to the division they get in Beck et al's work (2002), intended towards native language specialists. A Finnish middle school lesson on, say, physics might cover vocabulary in a different quantity and versatility than a North-American one. On top of this, there is the functional aspect, which is here elicited with the insight from Unsworth (2001) bringing forth that different subject-specific languages make use of word classes differently. Unsworth's work (2001: 11) produces that for instance, natural sciences utilize subject-specific nominalisations of actions (that is, nouns like '*vaporization*', from '*vaporize*', also a derivative of '*vapor*') whereas history does not. It is said that in history, these kind of nominalizations, such as '*unemployment*' are usually Tier two-words, not necessarily subject-specific. All in all, different subjects apply different functions to their linguistic items and envelope totally different vocabularies.

To do subject-specific language justice, the notion must also be taken forward from the simple lexical level. As Schleppegrell (2004: 3) advises, students in any subject are faced with ever more complex conventions of language use. As practical examples for comparison, citing Sulkunen and Saario (2020): report writing in chemistry and an essay on history have extremely different functions and both include unique features to consider, for either one of them to even exist inside their respective genres. This divide, brilliantly put out by Schleppegrell (2004) poses naturally a

requirement for teaching: in order for subject teaching to happen efficiently, the more advanced the subject matter, the more there is genre convention to take into account. This is easily explained through the progression of schooling as the number of subjects progresses throughout the schooling path, coupled with the developing academic requirements, as a student moves through elementary, middle and high school. The importance of subject-specific language proficiency is further elaborated by Bower et al. (2020: 4) who address the unique methods of CLIL and respectively, their unique goals. They argue that CLIL-participants face different challenges to mainstream education: namely that the teachers must ensure results in content and language learning simultaneously, which is exceptional in the field. Furthermore, according to Paldanius (2020), the scope of disciplinary literacy has long been aimed towards the academic world of universities, even though these literacies are based on subject-specific languages and their literacies that start early along the schooling paths and are thus continuums that dissect any student's way from primary school to university. These evolutions lead to the understanding that subject-specific languages are multifold and hard to attain but also crucial to the learning processes of all academic subjects.

The National Core Curriculum sets out to tackle the challenge of subject-specific language learning by advocating for schooling that enables all students to work in a rich environment of various texts and in interdisciplinary contexts. While CLIL-teaching inadvertently covers those points, it can be argued that in CLIL-teaching, the requirements of the Core Curriculum and the aforementioned need of subject-specific language proficiency, the teachers are met with quite the burden. Which of course, is all the more reason to study CLIL-pedagogy through this lens.

## **2.4 CLIL as a crossroads of subject-specific and foreign language**

The first idea to grasp in this section of the theoretical framework is closely linked to the unique nature of CLIL. The language of instruction in the context of the present study is English, which is with all likelihood a foreign language to the students as well as the teachers. This means inevitably that the subject-specific language is not the same as the language they all have studied and utilized elsewhere in their education or profession. As mentioned briefly at the beginning of Chapter 2.2, the language of instruction changes when moving from content lessons to CLIL and the scope and aim of the language changes from language lessons to CLIL. Hence, CLIL being an activating approach encapsulating both worlds, there is plenty of subject-specific convention to teach and use. Argued further, according to the National Core Curriculum (2014: 89), the CLIL-program must not hinder the students' learning and academic success in

those subjects, meaning that they also must not be left behind in the ways those subjects work. Hence, the importance of subject-specific language is highlighted.

Continuing with what was said in Chapter 2.3, citing Unsworth (2001), the problem of language transition from native to foreign includes but is not limited to the mere vocabulary items. On the contrary, that is only the beginning: the specificity of subject-specific language might be of a different depth between languages, take Finnish and English for example.

To give the reader a practical example of subject-specific language use within CLIL, a fifth-grade history lesson on medieval cities' job markets (a made up but possible lesson, in line with the National Core Curriculum, pp. 258) could see the teacher and students negotiating meanings of work descriptions from medieval workers' guild rules and then forming that information to mock diaries of their own, which would concurrently introduce the students to new vocabulary in a new setting, new textual conventions to fathom and to create with. In this example the workers' guild rules, containing words like '*populace, quill or to embroider*' serve as clear-cut definitions of what subject-specific language is in the field of CLIL. To make sense of these imaginary guild rules, the students must understand the basic underpinnings of the society at that time and what different professions were possibly exercised. Then only can they begin to make use of the words, some of which might be extremely subject-specific. It is a constant debate over, not only what is relevant, but when and where. This can be illustrated by looking at the word '*quill*'. As was already discussed considering '*treaty*', the word might not be relevant in everyday language use, as a quill has not been a primary writing tool for a century or more but does still resurface occasionally in historical writing and fiction. On a CLIL-lesson as illustrated above, the word might get a much larger role. This process of extremely specific language use is in the school context probably best seen via CLIL education.

As regards the general aim of the present study, to understand teachers' conceptualizations of subject-specific language, Rantala and Khawaja (2021) have an alerting result on their study of history teacher students' readiness to adopt disciplinary-literate approaches in their teaching. Rantala and Khawaja explain that most of the students interviewed did not think they would teach general historical thinking in their future careers as history teachers. This is only a sidenote to this study, but as historical thinking can be seen as the conscious analysis of subject-specific language, among other things, it is worthwhile to grasp that teaching conceptualizations overarching the discipline is not necessarily the goal that teachers practice.

Subject-specific language is, by definition, visible and explicit, as it is the *primus motor* of the subject taught, but the processes, reasons and conventions behind it might not be. Approaching the subject of history, not unimportant to CLIL either, via the point of generalizing thinking to help understand not only the subject but the

world around it, is a goal that is deeply rooted in the National Core Curriculum and is relevant to all other subjects as well. Thus, subject-specific language is in the background of any sophisticated education practice, which CLIL assuredly is.

The previous notions have tried to paint a picture of just how central subject-specific language is to education in general and foreign language-medium education in particular. The theoretical foundations of the present study are now laid out and the next steps are the research questions and then practical methods to the answer the research questions. Section 3 will present these, shifting with help from the theoretical, to the practical.

### **3 THE PRESENT STUDY**

This section displays key information on the research questions that guided the study, the methods used to answer them, and participants interviewed.

#### **3.1 Research questions**

The present study aimed to unravel teacher's perceptions of subject-specific language and how they play out through foreign-language medium teaching. To do so, this study looked for answers to the following research questions:

1. In the field of CLIL, how do teachers conceptualize the subject-specific language of the subject they teach?
2. How do CLIL-teachers perceive the interaction between the foreign and the subject-specific languages?

#### **3.2 Subjects and Data**

What was decided for here, in terms of collecting data, was a set of interviews to get the most in-depth empirical data. This was chosen over, for instance, a questionnaire, which would admittedly provide a broader view on the subject and even encompass the field of CLIL in Finland quite efficiently. However, the downsides were too grave to put a questionnaire forth. This is mainly because respondents might be hard to reach, at least to a notable extent. Also, the responses would most likely have been

simple in nature, which would not have gone well with fully-fledged conceptualization that was sought after here. A further study in this field might want to look at actual discourses that are done based on the teacher's and student's conceptualizations of language, but for this study, the scope was set for the perceptions of selected teachers.

Finnish CLIL-teachers were the optimal source for this data because their understanding of both foreign and subject-specific language made them extraordinarily aware of phenomena in both. Their work in the foreign language will undoubtedly lead to them understanding the learning and usage process. Furthermore, as close to no Finnish teacher has had the formal training of CLIL, their own considerations that are molded through empirical observation and work are at the forefront of how they implement both foreign and subject-specific language. Primary alternatives for this set of respondents could possibly have been other teachers of various subjects, but that would likely then have narrowed the study down to Finnish-medium teaching. CLIL has its unique nature and methods and was, for the purposes of this study, best studied separately.

An optimal number of participants was deemed to be around 3-5 to enable depth in the interview process, as the goal was to understand the conceptualizations of teachers of different subjects and learn from their collective understanding. This number was borne out of the necessity to both gather meaningful (in a qualitative sense) data and keep the data succinct enough for a narrow-scoped study done with qualitative methods. For this study, two CLIL-teachers were interviewed. The desired turnout of respondents was thus not quite achieved, which naturally posed challenges for the present study. These challenges are addressed in more detail in section Discussion and conclusion but to put it simply, contacting teachers remotely and motivating them into a study during their workdays was hard. However, to dive into the data further was still worthwhile and the situation did not render the study useless.

The completed interviews of about 30 minutes each involved a teacher of Swedish who teaches English-medium classes (as well as mainstream ones) (hereafter participant A) and a teacher of physics and chemistry (participant B), both of whom teach partly in English. In this study, both participants will be referred to with the singular, generic "they", while concealing their identities is one objective and because gender is not an issue to be analyzed here. The participants estimated the quota of their English-medium lessons being approximately half of their teaching hours, making it a substantial part of their career, while still meaning that they are not solely CLIL-teachers. Both respondents had well over ten years of experience in this specific field of teaching and thus represent the community to a high degree, they can be perceived to possess an insight of what teaching is now and how it might have evolved, alongside their own identity as a teacher too.

### 3.3 Methods of analysis

The data contained information of how language teaching professionals view the language of their teaching in relation to the content and its own language. To get this information, transcriptions and translations of oral interview material from Finnish teachers who have implemented CLIL-teaching was produced. This data was then in turn analyzed within the guidance of the theoretical framework, as per Tuomi & Sarajarvi (2018). This means that the key concepts laid out in the framework defined what is relevant within the data, namely findings adhering to the ideas of subject-specific language and foreign-language mediated teaching.

The interviews were semi-structured to serve an important end: to give the conversation enough depth that it produces answers to the research questions. The interview must have space for the interviewee to interpret the questions freely, in order for them to voice their ideas and considerations, which are all important in building an understanding of the interviewee's notions. As semi-structured interviews mean interviewer involvement in the on-going thought process, it was helpful to keep in mind what Prior (2017: 176) says about the researcher's role. Namely, Prior exerts that for the researcher to try and stay out of the meaning-negotiation and interaction is not only futile but works against the study. The present study was hence all about negotiating meaning with the respondents, while that is the most prominent way to ensure mutual understanding of e.g., terminology and to both refrain from using too theoretical language and from oversimplifying anything. This all means that a semi-structured interview with the researcher participating and acknowledging their participation and subjectivity was the most fitting for the purposes of this study.

The data approach was therefore qualitative, as it best fits the general goal, that is, to comprehend the phenomenon deeply, but on a practical level. This qualitative data was analyzed regarding the theoretical framework of the study. This analysis was best done as deep-diving as possible, interpreting and communicating with the data, to avert the common problem described by Eskola & Suoranta (1998), leaving qualitative studies in social and pedagogical sciences at too shallow a level. To avert this academic pitfall, the thematization, which is introduced in the following paragraph, is followed up by discussion of the meanings and possible outcomes of such perceptions.

The plan was thus, to divide data excerpts roughly into two categories according to the general direction of the research questions: conceptualizations of subject-specific language and conceptualizations of the interaction that these two systems have with one another. This was obviously only the basis and plan. In the analysis the data was exposed to thematic content analysis, which in Guest's (2011) words primarily constitutes of finding meaningful units, called themes, and illustrating their differences, called coding. In sum, it was the data that, with the guidance of the theory and research questions, gave the content for any themes and interpretation. Thematic analysis can be thought of as a tool to make the data organized, which in turn allowed for a deeper meaning-seeking of what, how and possibly why the answers from the participants were as seemed.

As far as ethical issues go, anonymization of respondents was the primary one. To this end, their names were pseudonymized and all mentions of the schools or cities they work in redacted. The recordings were kept on a secure external hard drive and disposed of after the completion of a satisfactory textual transcription. Furthermore, as the data, their answers and narratives, was put under scrutiny, it was of utmost importance to only make valid claims about the excerpts, because the data analysis was the turning point where all the data was being interpreted by the one author that also made elicitation as to what that data was saying and how it might be used.

## 4 FINDINGS

This section presents the results of the study by looking into the data in relation to the qualitative research questions presented in the previous chapter. Delving into the data gives out themes in which the content is meaningful to be divided into. This chapter will be divided into two bigger sections according to the research questions, and under them into subsections: the themes. These themes in short are the following:

1. Terminology
2. Text genres
3. Finnish and the surrounding society
4. Past development and current stage
5. Communication in English

These five themes arise from the data and form logical entities that tie into the research questions. Furthermore, this characterization gives way to a broader look into the world of CLIL and foreign language teaching, as well as still serving the purposes laid out in the theoretical framework. The process of naming said themes was natural and is based on what is being said, the meanings uttered by those interviewed. It is, however, still a subjective division, so the data will be referenced to frequently, to show how these themes are constructed.

The first two are the most straight-forward, tying in closely to the first research question, the conceptualization of subject-specific language. Terminology and text genres were asked about directly, since they offer a tangible point of entry into subject-specific language. The third theme, Finnish language and society having an effect on CLIL-work, stemmed out unprompted. It is more present with B but is mentioned in A's interview as well. This theme gives context to the wider phenomena. The fourth theme, the development, of which both respondents had had their fair share, was discovered through questions about problems with teaching in English. It might shed

some light on the challenges faced on a temporal continuum, thus enriching the picture of subject-specific language going through such evolution as well. The fifth theme shows these CLIL-teachers using English as a communicative tool outside mere instructional language, which is, let it be added, one of the reasons why they were chosen to be the participants in this study in the first place. Themes three to five connect logically with the second research question, about the interaction of foreign and subject-specific language. To give each theme some breadth, they will now be opened to inspection with excerpts from the data.

## **4.1 CLIL-teachers' conceptualizations of subject-specific language**

### **4.1.1 Terminology**

To start discussing the results, two distinctions are in place. Firstly, this section shows a host of extracts from the interviews, and it must be noted here that these extracts are all translations of the original interviews that were conducted in Finnish. Secondly, Participant B, who teaches chemistry and physics, so two independent subjects, plainly claims that their ways of using language are so much on the same continuum that they can mostly be thought of as a single unit, mathematical subjects, and will be discussed in this study as such, with slight differences mentioned under subsection 4.1.2 Text genres. The notion of utmost similarity is shown here in Extract 1:

Extract 1 (B)

Well, the languages of chemistry and physics don't really differ, they are so closely related as branches of science that I don't believe there is any difference there.

The first theme is the most easily tangible look into subject-specific language within CLIL: with the focus on terminology in the subjects. In this theme, the respondents shared their ideas on how they see subject-specific terminology in their teaching. Terminology, specific names for objects of observation, is possibly the most visible form of subject-specific language and therefore incites the most straight-forward answers here. Based on the current study, it arguably forms the lion's share of what subject-specific language is to the respondents. It is, however, obviously still only one

aspect of subject-specific language. The following excerpt from respondent B shows the explicitness of it, but also reveals another notion:

Extract 2 (B)

Well of course it's riddled with terminology of these sciences. But otherwise not that much, no. I'd say that the English I use is quite the layman's language

Extract 1 shows Participant B, a teacher of mathematical subjects, answering a question of the density and frequency in which subject-specific vocabulary is used in their subject. Quite clearly, the perceived frequency of that is high in this estimate. At the same time though, B characterizes their language use as simplistic and not that demanding. To begin with, the notion of subject-specific terminology being layman's language is quite paradoxical. It is worth noting that here the subject-specific terminology is seen as both an overtly frequent phenomenon that underlines the study of subjects but also as an afterthought, compensated by the everyday nature of the language use by the teacher. This, as said can be considered even paradoxical. It communicates the point of view of the teacher: they believe the terminology is easy to use and grasp for themselves in the profession. At the same time though, it could be seen as an additional burden for the students. No mention is given to how this terminology is taught and conveyed to the students. Respondent A talks about how terminology is put up for their students in the following excerpt:

Extract 3 (A)

I mostly speak English and then some basic stuff in Swedish. Our books have vocabularies translated to Finnish of course.

Extract 2 from Participant A, a teacher of languages, is them describing the problems within CLIL. The teaching relies heavily on written Finnish and spoken English. Here the notion of English as something "basic" is easier to believe, as contrasted with the English of mathematical subjects (more on that later). As to subject-specific terminology, there seems to be a paucity of it. This rather surprising discovery cannot be claimed factual from Extract 3, but it is further pointed to in the following excerpts, making the big picture more visible.

Participant A continues later:

Extract 4 (A)

And my English in these Swedish lessons is often me reacting to what has been said or done by students, so it's this kind of everyday English.

Extract 5 (A)

And with them I start sometimes automatically using English and I've asked the students if they have difficulty with that and they say that they really don't.

Looking at these accounts, it could be argued that A sees the language as not subject-specific, whereas B sees subject-specific language as the backbone of those subjects. With the first quote, the picture of what happens with the content matter in the classroom is not addressed, as it is a depiction of the overall linguistic landscape. This is not to say that this observation would be false, but it does leave out, for instance, giving instructions, handling the content matter or doing exercises and activities. The simplicity and accessibility of the language is further underlined with the last excerpt, which, on the surface, is not about subject-specific language. Still, this reasoning is done to the end of showing that there is no problem with subject-specific language, or English or them both, if a group, where only some are willingly studying in English, is still happy with spontaneous English instruction. Which, let it be added, is the teacher's interpretation of this situation.

All in all, subject-specific terminology, as seen by the teachers, either is there or is not, even though it evidently should permeate any subjects. A disparity between how the language is and how the teachers see it, seems to be surfacing. That is, both respondents claim using everyday language in class to teach their subjects, which should not be the case as subject-specific language can look like everyday language but by definition is not. Differences between subjects seem to be enormous too, this difference will become more evident as text genres are discussed in the next subsection.

#### **4.1.2 Text genres**

The second theme arising from the data can be named as the perception of text genres in the subject, in a straight-forward manner. Both respondents recognized that their subjects had unique text genres. With text genres here is meant styles of presenting information through written text. Text genres in everyday life might include things like detective stories, news, personal messages and the like. Here the notion of text genre is more narrowly defined, the interviews included asking about specific genres

of text in the respective subjects. This way the outcome is that the types of texts the subjects utilize, as seen by these teachers is brought forward.

Text genres within language teaching are described mainly as text excerpts of the textbooks and teacher notes. Teacher A describes there being a lack of specific genres, as shown by this quote:

Extract 6 (A)

...they are mostly dialogs where you for example are buying something, ordering food or setting up a meeting, also discussing opinions, so really short and simple texts. Then there are longer texts, that have been chosen to relate to the youths' lives somehow, so like movies, hobbies and other things that are in the small circle of a student's interests in life.

The two disciplines seem to differ from one another in terms of genres like night and day, as one might suspect. However, they do share some similarities also, ones where the teacher is a key player as they display the language to the students, namely the notes made by the teachers. Notes written on the board or shown there from slideshows and the like are modes of information sharing that both teachers talk about using frequently. B explains that these notes, which are their teaching method, apparently quite frequently used in the classroom, are always in English. These notes obviously convey the content matter, which was deemed to be full of terminology of the subject in the very first excerpt. So, what can be made from this seemingly small piece of information is that the perceived complexity, or specificity, to be more exact, of the subject-specific language coexists with a certain simplicity. This can be thought to be the result of rare words being used in simple structures. At least B's idea of these notes was that they are simple in terms of structure, but that is naturally a subjective notion and since the complex vocabulary is said to be omnipresent, it is deducible that the language, although perhaps simple in structure, is by no means easy. To delve into the realized subject-specific genres further, here is Participant B describing how information is displayed in mathematical subjects:

Extract 7 (B)

But I mean, presenting measurement results in tabular form and on that, drawing graphs is in physics one of the most central concepts. And in chemistry too, especially in the analytical side of it ... So, maybe the typical things in this discipline are drawings, graphs and tables.

Here B has a distinct look on the specific genres of text, but this does not get transferred to their own display of information: B does not allot notes as subject specific language, even though notes of chemical, physical and mathematical occurrences could very well be argued to be just that. These notes are after all entirely about the content matter and a type of language, highly likely to be non-existent in other walks of life. The same can be said of A's notes shared to their classes: they are subject-specific to the core, since they invoke interpretation of highly targeted utterances, in multiple languages, on the subject matter. But also, here there does not seem to be recognition from the teacher's side that this information is actually subject-specific. And if this is done on every lesson as was said in the data, a key one too. This way the teacher becomes a producer of subject-specific language via extremely specific genres of text. Moreover, this happens apparently unbeknownst to themselves. So, it seems that the whole concept of text genres specific to their disciplines was not as explicitly realized by the teachers as terminology was.

In Extract 7, B is answering a question about how data is usually presented in their subjects. Many ways of doing that do emerge that are surely quite subject-specific. Graphs, drawings and tables are arguably prominent for these subjects, although they are also used, to a smaller extent, in presenting information in societal studies too. This way learning to produce and decipher them is not limited to becoming more advanced in mathematical subjects alone. Still, what can be made out of B's account is that a typical lesson seems to be extremely subject-specific in terms of read and written text.

To sum up this theme, there are hugely prominent text genres in both respondents' teaching, ones that the teachers name themselves and others that rise from the data indirectly. While they do share similarities between them e.g., the mode and frequency of displaying teachers' notes, these text genres are for the most part highly subject-specific. This specificity is also clear to the teachers, both of whom describe entirely different sets of genres their subjects use. Mathematical subjects have more clearly cut subject-specific genres, mainly because of the numeric information they provide and use, while in language teaching the specificity might be harder to spot, from plain text and text excerpts that are found to be of everyday nature.

## 4.2 CLIL-teachers on the interaction of foreign and subject-specific languages

Under this chapter, three more of the themes are brought forward. The latter research question “*How do CLIL-teachers perceive the interaction between the foreign and the subject-specific languages?*” allows the study to look at the linguistic surroundings of the programs to broaden the view of subject-specific and foreign language activity. Although three distinct themes are found within the answer to the research question, it must be noted that these phenomena do overlap. For instance, Finnish society and authentic communication in English tie closely together while the latter of these themes is only remarkable because of the first, the unique situation. Now these themes will be investigated and opened up.

### 4.2.1 Finnish and the surrounding society as variables

This third theme is a shift to another direction from the two previous ones, as it describes the impact of the surrounding society on these CLIL-programs. This is highly relevant to the present study because it shows how teaching is linked to the society around it and how, thusly the interplay of different languages and registers is too. Finnish society was already mentioned within the analysis of the first theme but will be looked at more thoroughly here. Surrounding society has an instrumental influence on schools and therefore their content matter, while education is done for the society. In the present study’s context, Finnish society, society which functions mainly using the Finnish language. While obtaining a command in Finnish is by no means the only way to live and succeed amongst said society, it is probably the easiest one, which is also highlighted by the school system’s explicit Finnish-heaviness. This process is described in A’s responses (Extracts 8 & 9) and B’s (Extract 10) as well, as they explain how their CLIL-program also aims in achieving mastery in Finnish:

Extract 8 (A)

We actually have students who speak Finnish as their first language and those who have it as a second language, so they are anyway going to study Finnish. In the recent years proficiency in Finnish has become increasingly important because in our town, there just aren’t that many study options available in English.

Extract 9 (A)

So, some of the groups just might be so strong with the Finnish. So, if we talk about something in English and somebody doesn't understand, we can do it in Finnish then as well. So, it's always dependent on the situation.

Extract 10 (B)

So, you try to speak English yourself and then the opposing party, so to speak, keeps talking back to you in Finnish all the time.

This is apparently done to ensure that the students' future possibilities of studying further and living within society stay as open as possible. It highlights the need for Finnish and is hence something that will inadvertently influence the subject-specific language of those classes. For the native Finnish speakers in these programs this is hardly an issue in the same meaning as for those who have a different L1 and are learning Finnish but nevertheless, the Finnishness stays in the background as a factor. So, both respondents describe this phenomenon as something that affects their teaching and hence the subject-specific language at their disposal in various ways, mostly through the choice of language that is often decided among students. Once again though, there are notable differences between the respondents. In B's teaching, Finnish seems to accumulate drag in terms of authentic usage of English, whereas in A's telling, it helps the negotiations of meaning. These examples at hand, it is visibly so that Finnish society is a big factor in the background of teaching in English.

The English-mediated Swedish, that participant A specializes in, could be said to possess a unique dimension in its utilization of subject-specific language: a third independent language, Finnish. This remarkable combination is described by Participant A:

Extract 11 (A)

When you're teaching Swedish in English, the materials are still mostly Swedish-Finnish, so it's quite the concoction really.

This phenomenon puts pressure on the acquisition of subject-specific language in the sense that it guides the people involved to using all these languages. While A mentions this happening, they do not believe it to be that big of a deal. This is not surprising, since they view the entirety of subject-specific language as virtually non-existent. The notion of having to use and learn Finnish on the side is also mentioned by B, who explains that it is an important goal in teaching too:

Extract 12 (B)

But still I feel that I must let the students out of my hands eventually knowing that they are in control of the study matter also in Finnish. Because when they go into their next study place, most of them will continue their studies in Finnish.

As introduced above, it is thus explicit that Finnish society imposes expectations on the language skills of all the players here. All students must learn Finnish and the content matter, so it further imposes a challenge on the acquisition of subject-specific language in these CLIL-programs: subject-specificity must be learned in English and Finnish. It also varies a lot whether any of this is causing extra work and to whom. The groups of students are after all heterogenic in their utilization of languages.

#### **4.2.2 Past development and current stage**

As introduced, the fourth theme of skills development paints a picture of the two teachers in learning processes. Even though they have different backgrounds in language studies and fundamentally different disciplines to teach, both share similar phases of learning to become a bilingual content teacher. Firstly, both originally took part in such an approach out of their free wills and have also mainly kept their interest in CLIL. Secondly, they both have had a developing phase where they negotiated a lot of the meaning it has to them and had to find their unique way of implementing CLIL in order to make it work for them. Often documented elsewhere, it is not a surprise that CLIL-teachers are left on their own devices in their daily work. In both cases here, English and the different set of subject-specific language have been a process of self-learning and learning by doing. The following are A's (Extract 13) and B's (Extract 14) accounts of acquisition of fluency, Respondent A also mentioning authentic communication:

Extract 13 (A)

Yeah, maybe and also for the sake of my own language skills, my fluency in English has improved over the years, because now I actually need to communicate with it and it's not merely a subject at school.

Extract 14 (B)

My own language proficiency has evolved through time when doing this. So, my vocabulary has expanded.

Looking at A's account, their foreign language proficiency has improved significantly and that they find meaning in its usage in the classroom. This is even more

interesting as A is a language teacher, also of English. In both A and B's narratives, learning and becoming a more confident teacher is loosely connected to the subject-specific language use by them: finding their way to communicate their subject. This might sound self-explanatory and perhaps repetitive, but this is a new finding, because conveying subject matter orally was never mentioned by the participants as subject-specific language. It has thus far evaded the scope of this study too. Developing a balanced way of teaching in English is surely a complex and highly context-dependent phenomenon but also at the center of this trade. This finding goes together with the earlier mentioned teacher-led displaying of notes. That would also be done in English and on content matter, quite centrally in the classes, but was still left out of the discussion when pondering subject-specific language. To bind this topic together, there seems to be a certain automatization of these explicit processes: why would the teachers think twice about how they use basic classroom language. It is worthwhile to keep in mind that they have been doing this for over ten years each and have grown accustomed to teaching in the ways they feel best. As the name of the theme suggests this is exactly the process of development as CLIL-teachers.

The following excerpts paint the picture of the current state of the teachers, both of whom express confidence in their work with the language. Participant A distinguishes nuanced differences in their language use when the language changes but holds them to same value:

Extract 15 (A)

It doesn't really matter to me which language I'm using in the classroom. Maybe in Finnish I'm able to react quicker and in a wittier way to things, whereas in English I'm more reserved and stick to a way of speaking of which I'm totally sure that I do it correctly ... But my feeling about the teaching doesn't change, it's all the same.

Participant B, on the other hand, explains the daily work towards mastery of the foreign language:

Extract 16 (B)

I always tell my students that I'm not an English teacher and that I most likely make a ton of mistakes too. But on the other hand, I'm always trying to write as correctly as possible and I check different words from the dictionary, even multiple times during a lesson if it's needed. And I'm quite frank about it to my students, so I check words or spellings.

As this study is concerned, this current feeling that they have can be seen as a snapshot of the result of their developments as CLIL-teachers. This is naturally not to

say that development would somehow cease, but it does appear to be the case that they both feel like their developing phase is over and their work with the foreign and the subject-specific languages has reached a level that allows them to function without thinking about it too actively. B does of course point out that they are always working on their orthography and vocabulary, which is developing skills, but this is seemingly done on a level of confidence and there is not that much development in their stance towards teaching or language use.

All in all, both respondents seemed satisfied with how far they have become and how well they perform within their subjects and in English. Both teachers felt unnerved to be using English when they started their careers but have now come to terms with these problems. A lot of negotiation for meaning still occurs and the subject-specific language use of the participants can be said to be constantly evolving.

### **4.2.3 Communication in English**

The fifth and final theme sheds light on the respondents' thoughts on how they get the chances to use English communicatively, in authentic situations, outside the content matter and classroom agenda itself. It is thus, a theme that is not directly under CLIL or even subject-specific language but still something that is borne out of them. To put it simply, these teachers arguably come across English-mediated authentic communication, because it is their profession to utilize it in their subjects. A key factor in this are the students with whom the teachers converse in English. Teacher A is particularly prone to mentioning meaningful discussions with students, whereas B brings up a native English-speaking colleague who has been influential while also mentioning native-speaker students:

Extract 17 (B)

And there have been ... native speakers too. Earlier not that many but these days we actually have a native speaker among our staff, and we do some collaboration too.

This aspect of communicative function is in line with hypothesized study results, whilst English-medium teaching is such a rare and eventful approach in the Finnish scene. B's English-speaking colleague is a welcome surprise in this context too, as collaboration in CLIL can be hard to come by. They also talk about discussing the oddities of Finnish and English with said colleague, which could further be seen as helpful in relation to the subject-specific and foreign language that B deals with in their work. Respondent A talks about their groups and highlights that to them, English is not a big deal communicatively:

Extract 18 (A)

So, these English-speaking classes, they really use the language the same way a Finnish-only class would Finnish.

Saying this, A transmits that their groups use the language authentically for communication. Hence, there might not be such a gap between the foreign and the subject-specific and their interaction could be made smoother. B has drastically different experiences in this regard:

Extract 19 (B)

But what is an ongoing challenge, at least in our community, is that for some reason, the student's own desire to use English is quite low. And that makes the job also, it's like pulling a sledge full of rocks.

After saying this, B does add that there are differences between groups and that this interpretation is mainly from middle school classes, whereas high schoolers seem to have a keener attitude towards using English. The circumstance of how English is used outside the content matter is here completely different between the participants. The situation with B here is surprising in this study's gaze, as a certain fascination with the foreign language would stereotypically be associated with CLIL-programs. However, the fault might not lie in subject-specific language and cannot be fully addressed here either. To put both accounts into a frame, differences in group dynamics and individual backgrounds must be huge factors in how English is used to a communicative end, which both teachers acknowledge. What is addressed in this study is the conceptualizations of the teachers and from that point of view it does seem clear that no connection between distinctly subject-specific language and authentic communication can be viably drawn. That is to say; that delving into the language of the discipline would invoke conversation that transcends the content matter. This is simply not visible in the data. What is visible though; is that the teachers, in varying contexts and intensities, do experience their work leading into authentic conversation.

As to the second research question, which was sought to be answered here, it can be now put out that this was also done. So, how do CLIL-teachers perceive the interaction between the foreign and the subject-specific languages? The participants describe it as a complex issue. They talk about their mindful development as teachers and describe hardships in attaining the skills and the attitudes needed for such work. They also see surrounding society, in the shape of different kinds of groups, levels of motivation and future expectations in studying and living, as having a huge influence

on their programs. Let it be added here that the nature of this latter part of results is more of the indirect sort: the conceptualizations of subject-specific language talked about in detail in Section 4.1 are rudimentary and hence elicit simple findings taken directly. Whereas these broader ponderings made by the respondents are something they themselves might not realize are relevant to subject-specific language proficiency and knowhow. Now that all themes are laid out and the findings presented, it is time to put them together for a comprehensive look and conclusion in the final chapter of this study: Discussion and conclusion, which presents synthesis of the findings, discusses limitations to the study at hand and explores future possibilities within this area of research.

## 5 DISCUSSION AND CONCLUSION

This study was initially launched to gain understanding of how subject-specific language is perceived by teachers who utilize it in a foreign language in CLIL teaching. The assumption was that these teachers would offer particularly rich insight into this phenomenon. Moreover, they could be asked about the additional specification that English as the teaching language naturally brings about. It was then decided that the research questions should follow this intent, while staying broad in definition:

1. In the field of CLIL, how do teachers conceptualize the subject-specific language of the subject they teach?
2. How do CLIL-teachers perceive the interaction between the foreign and the subject-specific languages?

These definitions worked well within the theoretical framework and produced a sufficient basis for interviews, realized with the two respondents. The respondents interviewed then gave invaluable information on how they see these processes and thus, the results of the qualitative content analysis performed were mainly well in line with the research questions and the theoretical framework. This success will now be put under closer inspection.

The results of the study were multifold. When looking at the first research question, there are multiple results with heavy variation between the participants. Firstly, the participants seemed to conceptualize subject-specific language mainly as words that are unique to their subject. This was examined in subsection 4.1.1. When inquired further, they gave out a host of subject-specific text genres, as seen in subsection 4.1.2. These direct results are perfectly valid observations in reference to the theoretical background and answer the research question. But there is also a lot more defined in the framework that does not appear in the semi-structured interviews: word usage hierarchy (Beck et al. (2002: 8-9), syntactic function specification (referring to

Unsworth (2001) or deeper functions of modes of information. This way it can be argued here as an indirect study result that the conceptualizations could very well do with additional depth and versatility. Of course this is not to say that only because complex ways of investigating subject-specific language exist, they should immediately be explicitly communicated by any teachers. It does however leave a gap between the research done on this matter, which is, even though always specific, still attainable and vital to any subject, and the lived world of teaching. So to put it more plainly, what is meant here, is that as any subject requires subject-specific language use to function, it cannot be stressed enough how much teachers and students should understand its existence and the shapes it takes.

A bridging discovery between the two research questions was the variation and difference of the two respondents. Their matching careers but hugely different subjects form grounds for them talking about subject-specific languages that are exactly that: specific. Text genres were presented as highly present, specific and influential in mathematical subjects, but from non-existent to everyday language in Swedish. Moreover, terminology was perceived as both highly permeating (B) and of rudimentary nature (A) at first, so the polar opposites. When looked at more closely though, it was found that subject-specific language does exist in both cases. This existence seems, however, to go largely undetected to the teachers. This way it can be claimed that there is a gap between what subject-specific language looks like in the light of the selected theoretical works and how it is seen by the participants in practice. Such disparity would not be surprising and not in the least something that should be seen as acutely worrying, as this gap is primarily birthed by this theoretical glance. This gap is still an important discovery as further research or teacher training is concerned. As to the interaction between subject-specific and foreign language, three highly intriguing themes were found but direct answers to the question not so much. For instance, hypothesized differences between Finnish and English subject-specific languages were only hinted at, not explicitly addressed. Still, the linguistic development of the participants, authentic communication, and mindfulness of what it means to teach in Finland in English, are all relevant issues here. Hence, teaching CLIL has made these teachers what they are today: confident professionals working efficiently in two languages, while also navigating the subject-specific languages.

At this point in the study, a few mentions are in place. Namely, possible and evident limitations to this study. Given the smaller than intended scope (from three to five interviews down to two), analyses of subject-specific language are left in part to be theoretical, whilst real focus is given to foreign language and mathematical subjects, represented with the help of the data. This way the juxtaposition of different subjects does not come to fruition here in the intended scope, remaining an area for future studies. The gathering of data was greatly hindered by the Covid-19 pandemic, which

left long-lasting marks in the wellbeing of teachers and students. The abnormal circumstance did offer the chance for videoconferencing instead of meeting in person, which helped in contacting respondents from various parts of Finland. Still, the societal circumstance of isolation and mental strain in the aftermath of the global pandemic made it, evidently, hard to get any more respondents. That being said, the participants that were interviewed were extremely helpful and motivated to take part. Their wisdom is at the forefront of the successes of this study.

The field of CLIL remains a uniquely useful viewpoint into the world of teaching, learning and language use. A similar study should be made with a bigger sample size and versatility, so that teachers of all kinds of subjects were possibly included and their subject-specific language uses put under scrutiny.

Students of CLIL-classes would on the other hand form a solid group of participants, but their insight might be hindered by their more passive status in the general classroom discussion. This, however, does not mean that CLIL- or other students would not be relevant participants in another study in the field and their perception of the subject-specific language and foreign-language might thus remain an interest for future studies. Moreover, gaining an insight of what really happens in these classrooms via observation and recording would better the understanding of CLIL as a crossroads of foreign and subject-specific language immensely. Considering the results of the present study, landing on the *summa summarum* that teacher's skills in subject-specific language could be a relevant point of development in future research, it is most intriguing to see if the field does really take a turn for the better.

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## APPENDIX:

A foreword on the transcripts, the following excerpts are the original statements of the interviewed participants. The interviews took place in Finnish, were transcribed, and analyzed in Finnish and later translated into English for the extracts.

### Extract 1 (B)

No kemian ja fysiikan kielet ei juuri eroa, ne on niin lähellä toisiaan tieteenaloina että en usko että siinä on mitään eroa.

### Extract 2 (B)

No totta kai se on täynnä näiden tieteiden kieltä. Mutta muuten ei niinkään paljoa joo. Sanosin että englantia mitä mä käytän, on hyvin arkista kieltä.

### Extract 3 (A)

Puhun enimmäkseen englantia ja sitten jotain perusjuttuja ruotsiksi. Meidän kirjoissa on tietty sanastot käännetty suomeksi.

### Extract 4 (A)

Ja sitten se mitä siellä yleensä englanniksi puhutaan näillä ruotsin tunneilla, niin on semmosta reagointia siihen mitä oppilaat on sanoneet tai tehneet eli aika arkikieltä.

### Extract 5 (A)

Ja siellä mä alotan välillä automaattisesti puhumaan englantia niin mä sitten oon kysynyt että tuottaako se hankaluuksia ja ei se kuulemma haittaa.

### Extract 6 (A)

...ne on useimmiten dialogeja missä esimerkiksi ostetaan jotain, tilataan ruokaa tai sovitaan tapaaminen, myös keskustellaan mielipiteistä eli tosi lyhyitä ja yksinkertaisia tekstejä. Sitten on myös pidempiä tekstejä, jotka on valittu niin että ne koskettaa tätä nuorten elämän piiriä jollain tapaa, niinkuin elokuvia, harrastuksia tai muita asioita, jotka on tässä pienessä nuoren elämän piirissä.

Extract 7 (B)

Mutta siis mittaustulosten esittäminen kaavion muodossa ja lisäksi fyysikassa kuvaajien piirtäminen on niitä keskeisimpiä konsepteja. Ja kemiassa myös, etenkin analyyttisellä puolella ... Eli ehkä ne tyypillisimmät tällä tieteenalalla on piirroksiset, kuvaajat ja kaaviot.

Extract 8 (A)

Meillä on itse asiassa oppilaita, jotka puhuu suomea ensimmäisenä kielellään ja sellaisia joilla se on toinen kieli, eli he opiskelee suomea joka tapauksessa. Viime vuosina on noussut tärkeemmäksi se että suomea opitais hyvin, koska tässä kaupungissa jatko-opintomahdollisuudet on useimmiten suomeksi.

Extract 9 (A)

No jotkut ryhmät saattaa olla tosi vahvoja suomessa. Eli jos me puhutaan jostain englanniksi ja joku ei ymmärrä, me voidaan tehdä se myös suomeksi. Eli se riippuu aina tilanteesta.

Extract 10 (B)

Eli sä yrität puhua itse englantia ja vastapuoli, niin sanotusti, vastaa jatkuvasti suomeksi.

Extract 11 (A)

Kun opiskellaan ruotsia englanniksi, niin meidän materiaalit on silti enimmäkseen suomi-ruotsi-materiaalia.

Extract 12 (B)

Mutta mä oon kuitenkin sitä mieltä, että mun täytyy laskea nää oppilaat käsistäni niin, että mä tiedän, että heillä on tää oppiaines hallussa myös suomeksi. Koska kun ne menee seuraavaan opiskelupaikkaan, suurin osa niistä jatkaa opintoja suomeksi.

Extract 13 (A)

Joo ja myös mun oman kielitaidon takia, mun taidot englanniksi on parantunut vuosien varrella huomattavasti, kun se on aidosti kommunikation välineenä eikä vain opetettava aine.

Extract 14 (B)

Mun oma kielitaito on kehittynyt ajan myötä, kun tätä on tehnyt. Siis mun sanavarasto on laajentunut.

Extract 15 (A)

Mulle on ihan sama mitä kieltä tuolla luokassa käytän. Ehkä suomeksi pystyn reagoimaan nopeemmin ja nokkelammin, kun taas englanniksi oon varautuneempi ja pitäydyn sellaisissa ilmauksissa mistä tiedän varmaksi että ne on oikein ... mutta se tunne siitä opettamisesta ei muutu, se on ihan sama.

Extract 16 (B)

Mä kerron aina oppilaille että mä en oo mikään englanninopettaja ja että teen varmasti tosi paljon virheitä. Mutta toisaalta mä pyrin myös aina kirjottamaan niin tarkasti kun pystyn ja tarkistan sanoja aina sanakirjasta, vaikka montakin kertaa tunnin aikana jos se on tarpeen. Ja mä oon siitä oppilaille aika rehellinen että mä tarkastan sanoja tai niiden kirjoitusasuja.

Extract 17 (B)

Ja on meillä ... ollut myös natiiveja. Aiemmin ei niin paljoa, mutta nykyään meillä on henkilökunnassa natiivipuhuja ja me tehdään jonkun verran myös yhteistyötä.

Extract 18 (A)

Eli nää englanninkieliset luokat, ne käyttää englantia ihan niinku suomenkielinen luokka suomea.

Extract 19 (B)

Mutta mikä tässä on jatkuva haaste, ainakin täällä meidän yhteisössä, että jostain syystä oppilaiden oma halu käyttää englantia on tosi matala. Ja se tekee tästä työstä tietysti myös sellasta kivireen vetämistä.