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## Høgskulen på Vestlandet

# Norwegian Elementary Pupils’ 

## Dominant Language Constellation

Norske barneskole-elevers Dominante Språk Konstellasjoner

## Candidate number: 105

MGBEN550 English 3, module 4 - Master's thesis
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## 1. Introduction

There are countless languages around the globe. Due to multiple factors like globalization and immigration, people around the world encounter these languages multiple times and in increasing amounts through their life. This is also the case for Norwegian classrooms, where the number of languages present is ever increasing. According to a report called "Rom for språk" made in 2015, there are currently more than 150 languages registered in the Norwegian primary school (Pran \& Holst, 2015, p. 4). Because of this large number of languages present, it can be difficult for teachers to discern what languages any given pupil has. In addition to this, there is an increased focus from curriculums and international research to not only see the languages children sit with, but also use to use them as a resource. With this in mind, teachers need to find ways they can both discover the languages pupils bring to the classroom and allow pupils to shape the classroom. In other words, the languages the pupils bring into the classroom, either from home or from other outside influences like media, can become an important and useful tool in language learning and other school subjects. However, this means that teachers need to give the languages present the space to do so. For this reason, I am writing this thesis in order to showcase the language diversity in an everyday Norwegian primary class. The aim of this thesis, is to show how different environments impact language use and thus is bound to impact the languages the pupils end up favoring in a school setting, regardless of what languages they speak at home or use in media. This way, teachers can be more prepared when facing their multilingual classroom.

### 1.1 Background

Before diving into the multilingual classroom in Norway, it is important to gain an understanding of the general linguistic situation in this country. There are several arguments to suggest that all Norwegian citizens are multilingual. The Norwegian language has two written forms and speakers will be able to understand a multitude of different dialects within the country. Norway is also ranked number 5 in proficiency in English, according to EFs English Proficiency Index (EF, 2023). In school, most pupils will have access to learning either Spanish, French, or German as a second language. Norwegians will also be able to understand both Swedish and Danish with relative ease, and there are several speakers with another home language (Vikøy \& Haukås, 2023, 912). According to Statistics Norway, there is also in increasing number of children coming from linguistic and cultural minorities in kindergarten. The number of children this applies to was at 20.4\% in 2023, whereas in 2018
the same number of children was at $18.3 \%$. (Statistics Norway, n.d.). Due to all these reasons, the linguistic landscape in Norway is quite diverse. This diversity is, however, not necessarily taken advantage of in the classroom. This could be because teachers are not aware of the linguistic background of all their pupils or because they lack the experience to make use of all these languages.

The lack of focus on pupils' linguistic backgrounds, could be unfortunate to them based on a few reasons. Firstly, languages are a part of ones identity and often shapes how an individual perceives their world. Not paying attention to these languages, could amongst other things, mean that children with different home languages do not feel seen in the classroom, or that they feel different to the other children there. Secondly, the different languages could affect how easily the different children learn new languages and their proficiency level in all their languages. Thirdly, all children have a lot of potential when it comes to their own language knowledge, and if done right, their languages could become a great resource in the classroom. For this to happen, teachers need to be open to what languages one can find in any given pupil.

When talking about the languages that any given person sits with, one can describe their linguistic resources in a few ways. One of these ways is to talk about their "language repertoire", which describes all known languages and language skills available to an individual or a community (Krulatz \& Duggan, 2021, p. 177). Thinking about languages available to any given person in this way, allows an overview of the different named languages this person knows. However, it says little about what languages a person prefers to use in any given situation or whether they use the different languages in different situations at all. It merely describes what languages this individual "knows". What constitutes as "knowing a language", can also be brought up for debate. Whether it means that this person is able to hold a conversation in this language or merely recognize it when someone uses it, is hard to say when one simply presents an overview of their "language repertoire". This also begs the question how big of a linguistic repertoire one would need to count oneself a bi- or multilingual.

In more recent years, a new approach was developed in order to combat some of these issues. This approach is known as the concept of Dominant Language Constellation, or DLC for short. A DLC refers to "the particular configurations of languages, fully or partially known and used, that form a coherent cluster" (Bianco, 2021, 6-7). In other words, a DLC does not base itself on all the languages in someone's arsenal, but rather the ones that are both known
and used, whether or not these languages are fully known to this person. This languages then act as a single unit, rather than separate entities, and can create different "constellations" depending on the situation, the age group of the individual, the geographic location, and setting amongst other things. Therefore, this approach provides a new look on multilingualism and can show how languages are far from constant, but act as tools that this person can draw on for help. This also means that different languages can provide different types of help and provide different resources to the individual. This can also be a helpful way to think of languages in the classroom. Pupils will be able to draw on their different experiences when learning about different subjects, and this is also holds true when it comes to language learning. The different languages available in a classroom can become different language resources for language learning. For this reason, teachers need to acquire an overview of the different languages and language constellations available to them. This brings me to the research questions for this thesis.

### 1.2 Research Questions

The main research question I will be focusing on in this thesis is:

- What languages and language constellations do elementary school pupils in Bergen bring to the classroom?

In order to answer this superordinate question, I have formulated two subordinate questions:

1. How does the domain of family impact the pupils' overall language constellation?
2. How does the domain of media impact the pupils' overall language constellation?

By looking at the domains of family and media, I will be able to see a unique perspective on how the languages in the different settings influence each other. I will also be able to see possible patterns and how important the different languages possibly become for the pupil. Lastly, it will provide me a good overview of what languages the pupils use in the different settings and discuss how this could affect what languages they would use in a school setting.

### 1.3 Construction of the Thesis

In order to answer these questions, I will first be looking at some theories regarding multilingualism and views on multilingualism in Norway. I will then look at how different school policies and curriculums addresses the linguistic landscape in Norway. After this, I will
discuss how there has been an increased focus on using multilingualism and languages as a resource in language learning, both in Norway and internationally.

After looking at how the language situation in Norway and globally has changed perceptions on what it means to be multilingual and how we should use multilingualism as a resource, I will be explaining how the concept of Dominant Language Constellation was developed in order to address a shift in the view of multilingualism.

After explaining my theoretical background, I will be moving on with explanations of how I adapted and used the DLC in this current thesis. I will also explain how I approached my research questions in order to answer them. After that, I will go through some DLC maps I developed based on languages reported from parents of Norwegian primary school pupils. I will discuss my findings and ultimately formulate an answer to my research questions.

## 2. Theoretical Considerations

### 2.1 Definition of multilingualism

To discuss the multilingual landscape in Norwegian classrooms, it is important to have an understanding of the term "multilingualism". Several definitions of this term have been proposed. One definition presented by Nordquist is that "multilingualism is the ability of an individual speaker or a community of speakers to communicate effectively in three or more languages. Contrast with monolingualism, the ability to use only one language." (Nordquist, 2019). In this definition, the number of languages a person or community of speakers are able to communicate in, become important. It is not enough to simply know a few words in multiple languages or be able to fully understand two languages. One needs to be able to talk or otherwise communicate with someone else in three or more languages in order to call oneself a multilingual. This term then stand in direct contrast to how the term "bilingual" is often understood as being able to communicate in two different languages. However, the term "bilingual" is sometimes also used to refer to people who may have multiple languages they can communicate with. This issue is problematized by Cook, who points out how easy it is to misinterpret this term as it heavily implies that there are only two languages present when talking about someone who is bilingual (Cook, 2016, p. 5). In part because of this problematic area, the term multilingualism has gained more popularity which has given rise to different interpretations and definitions.

While some separate the terms bilingualism and multilingualism very specifically by differentiating the two terms based on the number of languages involved, other definitions of "multilingualism" do not have this strict divide. This holds true for the definition proposed by Li where he states that a multilingual individual is "anyone who can communicate in more than one language, be it active (through speaking and writing) or passive (through listening and reading)" (Li, 2008, quoted in Cenoz, 2013, p. 5). In this definition, Li interprets the term multilingualism as simply communicating in multiple languages, whether it be two or more. However, this definition also crosses into the definition of another term, namely "plurilingualism". Council of Europe defines this term as "being able to use more than one language" and instead defines multilingualism as "the presence of languages in a given geographical area (Council of Europe, 2007, quoted in Candelier et al., 2012, p. 253). Here, Council of Europe presents a different perspective on multilingualism, which connects the multiple languages to a specific geographic area. This viewpoint on multilingualism does in many ways make sense, as multilingualism is a norm in the majority of contemporary communities (Krulatz \& Dahl, 2016, p.200). Thus, it is easy to connect the multiple languages to the communities that makes use of all of them. This viewpoint, also showcases a recent shift away from a focus on language form to how the language are used in practice (Vetter \& Jessner, 2019, p. 2). According to Vetter \& Jessner, however, the term "multilingualism" seems to still be the most widely used on an international level.

With all these different definitions regarding multilingualism, it is difficult to settle for one understanding of the term. Recent research on multilingualism seem to suggest that multilingualism is rather complex, involving multiple factors such as different languages influencing each other and being affected by time and place, as well as similarities between the languages and the proficiency level the individual has in them (Krulatz \& Dahl, 2016, p. 200). All these factors and characteristics has made it apparent that multilingualism does not merely mean that one has "multiple languages", but that it represents a complex group of people with different languages that engage with each other and the world around them in unique ways (Bianco, 2021, p. 6). Because of this uniqueness and complexity, it can be difficult to arrive at one definition that perfectly encapsulates everyone who identifies or is commonly described as multilingual. Nevertheless, for the sake of this thesis, I will define multilingualism as a term that can be used to describe "a person or community of people with complex language systems consisting of more than one language, where the languages and language skills within the system are functional in communicative settings". With this
definition, I hope to both encapsulate the complexity of having multiple language resources available to oneself, and also being able to use them in order to communicate with other speakers, whether it be active or passive communication.

### 2.2 Other central terms

There are a few other central terms that are important to discuss before moving on with this study. The first two terms are "second language" and "foreign language". These two terms are in many ways related but imply different things about the language they are describing. Calling something a second language, implies that there is something called the "first language". Drawing a line and distinguishing between these two is, however, not so simple. For starters, in the majority of contemporary communities, multilingualism is the norm (Krulatz \& Dahl, 2016, p. 200). In other words, while it is easy to point out what language is learned second for someone originally monolingual, the same cannot be said for the majority of people. A person who grows up learning two or more languages, could very easily be just as proficient in both at the same time. Therefore, arbitrarily calling one of them the first language and the other the second, would take away some of the value of one of them and artificially give the other one more status. This in turn would make the languages appear as though they were learned in a specific order, despite this not being the case at all.

On the other hand, calling a language a "foreign language" implies that it is completely unknown to the individual, or at the very least a language that they do not interact with often. This understanding of the term is pointed out as problematic by Lo Bianco, as he calls the term as related to languages: "untenable" (Bianco, 2021, p. 3). The reason for this is that, as explained by him, most language learners will encounter the languages they study in multiple places and can easily gain access to them, whereas in more traditional language education, you would only encounter the "new" language in the classroom. While there are several complications with the use of the word "foreign" in this term, it is typically used to describe languages that are not official within a given country or a language that is not learned as a "first language" by a native speaker. Therefore, both the term "second language" and "foreign language" tries to describe an additional language that is not learned from home and often require formal training.

This leads to the other terms that are important to discuss: "first language", "mother tongue" and "natal tongue". All of these terms have something in common, as they are typically used to describe the language one learns as a baby through the speech of one's parents. However,
there are a few key differences, based on the words they choose to describe this phenomenon with. The first of which has already been mentioned, where "first language" is used to describe the "first" language one learns. This term, as previously stated, complicates the situation for multilingual people, where they are "forced" to draw the line between two or more languages, in order to decide which they learned first and is possibly better at. This term stands in contrast to "mother tongue" which in many ways implies that it is the language of their mother which is their "first" language. This again becomes complicated in a multilingual situation where the mother of the child is possibly able to speak multiple languages. The child could also learn a different language entirely from either of their parents or not be affiliated with them for various reasons. In part because of this dilemma, the term "natal tongue" has been brought forth. This term tries to be more neutral than the other two, and as such uses the word "natal" which has more in common with nativity and births than it does to the parents of the speaker. It is for this reason that this term will be used henceforth in this study, to describe the language or languages the speaker has learned from when they were a baby. Other languages that are important to the speaker and to which they use regularly, will be referred to as "central languages", regardless of how long they have known them and in what order they were learnt. As such a multilingual speaker who learned Norwegian and English from birth, and is now learning Spanish in schools, would be described as having three central languages, where two of them are the speakers natal tongue. The term "central languages" was chosen to avoid the complications that follow the usage of terms like "second language" and "foreign language". This term wants to instead focus on how important this language is to the individual, from a self-perceived perspective.

### 2.3 Languages as an identity marker

All languages that a person knows, regardless of whether they are a part of their natal tongue or not, can be used as an identity marker for the person. This is because people often identify themselves and others through the way they speak. Byram found that by speaking a certain variety of a language makes us apart of a certain group, and by speaking the "incorrect form" it is easy to be singled out as different from the others (Byram, 2006, p. 7). This group is usually one that one is born into and helps to establish a sense of community with a certain social group. One also often adopts the language varieties of other people around oneself, such as in friend groups and when being a part of a larger community. Language is also a part
of forming the national identity of a person. As Byram notes, people typically learn the official language of their state throughout their education and are often "encouraged to speak the language they write", so it becomes closer to that of the state (Byram, 2006, p.8).

While people are not usually aware of the identity they feel a part of as a consequence of their language, they are made aware of this fact when they encounter others who speak in a way that deviates from the variety they know themselves (Byram, 2006, p. 10). This creates a "usthem" perspective, where other language varieties are seen as noticeably different and, in some cases, defined as "incorrect". Labelling certain language varieties as wrong, directly contrast being able to view multilingualism as a positive. Later in the article "Languages and Identities", Byram notes how identity is implicitly linked to language, culture, heritage, and history as they are seen as related concepts (Byram, 2006, p.12). Furthermore, he explains how people can acquire new identities and languages throughout their lives and can gain the ability to explore their linguistic identities through increased awareness about them. Therefore, learning about one's own languages and identities, can give the speaker a fundamental understanding of their self and open up doors to taking advantage of their linguistic identities to the fullest.

### 2.4 Languages within Norway

As stated in the background, all people in Norway can be seen as multilingual one way or another. This is in some ways due to the nature of Norwegian, which is comprised of written standard forms, Bokmål and Nynorsk, and often spoken with a dialect depending on where in the country one was raised. There are also other languages that are recognized as regional or minority languages, namely: Northern Sami, Southern Sami, Lule Sami, Kven, Romanes, and Romani (Regjeringen, 2022). These languages are also protected by law through the Norwegian Language Act. Norwegian sign language also gains status through this law alongside the recognized minority languages (The Language Act, 2021, §1). This act also strengthens the position of Nynorsk, which is now in some ways considered its own separate language. According to Røyneland, a professor at the centre for Multilingualism at the University of Oslo, Nynorsk can now be considered more than a written language, as it has acquired its own literary tradition and cultural history (Lilleslåtten, 2021). With all these defined languages present in Norway, the country is far from monolingual. But how does this reflect the linguistic backgrounds of the individual?

In the report named "Rom for språk", Ipsos made a nation wide survey, where they amongst other things, investigated what languages are used in the Norwegian primary school. In the report they showed that between $72 \%$ and $79 \%$ of teachers taught at least one pupil who spoke a different language than Norwegian at home. When looking at the specific languages these pupils spoke, the languages Polish, English, Arabic, Somali, and Lithuanian were reported most often by the teachers. In contrast, the pupils themselves reported more English and Western-European languages, like German, French, and Spanish (Pran \& Holst, 2015, pp. $8 \& 11)$. The report explains this difference by a possible "stricter" view on the question from the teachers side, while the pupils may want to include more smaller instances of using words from other languages.

Norway also has multiple languages used by refugees in the country. A study on the Dominant Language Constellation of two adult refugee groups in Norway, showed that languages such as Tigrinya, English, Arabic, Tigre, Amharic, Somali, and Persian, appear frequently (Krulatz \& Dahl, 2021, p. 123). This information combined with the report "Rom for språk", shows that there are several individuals in Norway who speak a different language than the official language of Norwegian. However, being able to speak languages aside from Norwegian is common in Norway. The greatest example of this is the language English.

As earlier mentioned in the background, Norway is rated as number 5 with very high proficiency in 2023 EF English Proficiency Index (EF, 2023). It has even been argued by scholars like Phillipson that English should be considered a second rather than a foreign language in Norway (Krulatz \& Dahl, 2021, p. 114). It is usually regarded differently from all other foreign languages by educational authorities, although they themselves avoid the term "second language". Thus, English holds an interesting and complex position in Norway as a language (Myklevold, 2022, p. 16).

There are several reasons for why Norwegians have high proficiency in English. One such reason is that all pupils get taught English starting from $1^{\text {st }}$ grade and continue learning English as an obligatory subject through the first year of high school (Krulatz \& Dahl, 2021, pp. 113-114). Another explanation is how present English is in media. As stated by Peterson and Sippola in an article about English in the Nordic countries: "In the Nordic countries, English-language media forms such as films and television programs are almost always subtitled, not dubbed into local languages." (Peterson \& Sippola, 2022). Because of this, a good portion of the media watched by Norwegians is in the English language. English media is also more and more present with younger children in Norway as new forms of media like
streaming and Youtube has increased in popularity (Krulatz \& Dahl, 2021, pp. 113-114). Therefore, proficiency in English has become more and more expected in Norwegians, and proficiency in English is even "associated with higher status and better access to education and employment opportunities" (Krulatz \& Dahl, 2021, p.119). Thus, English becomes highly valued in the Norwegian education system and is seen as a resource that allows for more opportunities.

### 2.5 School Curriculums and the view of languages as a resource

There has been some debate regarding whether or not the Norwegian curriculums truly see "all" multilingualism as a resource. On one hand, the core curriculum clearly states that "All pupils shall experience that being proficient in a number of languages is a resource, both in school and society at large" (Kunnskapsdepartementet, 2017). While this message alone seems to view all languages as a positive, the overall context of the statement gives the impression that it is referring to the official languages in Norway, like Norwegian and the Sami languages. Therefore, it becomes unclear whether the curriculum views all languages and all forms of multilingualism as a positive, or whether it simply wants to bring more focus on the official languages within Norway. However, earlier in the same paragraph they also state that "The teaching and training shall ensure that the pupils are confident in their language proficiency, that they develop their language identity and that they are able to use language to think, create meaning, communicate and connect with others.". While it is still ambiguous whether this applies to all languages, or simply official languages like Norwegian and the Sami languages, it could also be interpreted as applying to all languages. Furthermore, the curriculum states that:
"In a time when the population is more diversified than ever before, and where the world is coming closer together, language skills and cultural understanding are growing in importance. School shall support the development of each person's identity, make the pupils confident in who they are, and also present common values that are needed to participate in this diverse society and to open doors to the world and the future." (Kunnskapsdepartementet, 2017)

In this paragraph it becomes clear that the curriculum values each person's identity and wants to promote this viewpoint in Norwegian schools. This together with them viewing language as a part of one's identity, makes it clear that the overall viewpoint of languages is positive and
that multilingualism is in some ways viewed as a resource to the school and society at large. However, as the curriculum does not explicitly state that all languages and all forms of multilingualism is a resource, but rather only gives examples of the official languages in Norway, it becomes unclear what the exact message to teachers is. Should teachers see all pupils languages as a resource and promote them as such, or should they only see the languages and language skills that help promote Norwegian and other official languages?

This problematization has been discussed by others, like Vikøy and Haukås. When looking at the transition model offered to language minorities, they found that the subject of mother tongue teaching is only "a tool for mastering the Norwegian language" (Vikøy \& Haukås, 2023, p. 915). Therefore, it can be presumed that languages that are not official in the country, like the main language Norwegian, is not seen as equally valuable to the Norwegian society. Furthermore, by closely examining several language curricula by Kjelaas and van Ommeren, they found that being multilingual with languages like English and German is seen as more valuable than being multilingual with a immigrant language like Arabic or Polish (Vikøy \& Huakås, 2023, p. 916). This then means that only certain types of multilingualism are valued and seen as a resource in Norwegian curriculums. The unclarity of which forms of multilingualism is preferred and which is not, means that different interpretations of the curriculums can lead to different teacher practices. Therefore, teachers' beliefs about what approach to take with multilingual pupils, become increasingly important in determining what practice the different pupils meet in the classroom.

### 2.6 Teachers beliefs and perceptions regarding multilingual pupils

While teachers often express positive attitudes towards multilingualism, they rarely try to encourage multilingual pupils into exploring and developing their multilingualism. In some studies, teachers have even expressed frustration towards multilingual students, referring to them as "problematic minority students 'who have not developed their language"" (Vikøy \& Haukås, 2023, p. 916). This could be explained by similar viewpoints being fronted in the curriculum, where only certain types of multilingualism are valuable and multilingualism should preferably be used to support the learning of Norwegian. However, Vikøy \& Haukås also found that in some studies, "highly multilingual teachers had a stronger resource orientation towards multilingualism" and teachers who teach more than one language subjected "reported using a multilingual pedagogy more often than those teaching only one language subject" (Vikøy \& Haukås, 2023, p. 917). This would suggest that the resources and
experiences available to teachers, influence their approach towards multilingual pupils. Therefore, it is important to study the level of competence teachers have while working with multilingual pupils.

In a study done by Krulatz and Dahl, they found that the majority of teachers classify themselves as feeling somewhat prepared to work with minority language students. However only $5 \%$ of the teachers in the study felt very well prepared and $33 \%$ did not feel prepared at all (Krulatz \& Dahl, 2016, p. 206). This indicates that there is a broad spectrum of what knowledge teachers sit with in regards to multilingual pupils. Furthermore, they found that only $20 \%$ of the teachers have had formal training in working with multilingual students, something that also was linked to these teachers feeling more prepared in working with minority-language students (p. 207). However, the majority of teachers in this study were interested in receiving training, or if they already had some formal training, they were open for more. This suggests that, while teachers may not have the competence they themselves feel they need in order to work with multilingual pupils, they have positive attitudes towards working with them and want to provide them with a better tutoring experience. Because of this, teachers could become more welcoming to other languages in the school context, and use a more resource orientated approach towards them, which has been proven to be beneficial for learning (Sugrañes, 2021, p. 82).

Being able to view languages and multilingualism as a resource, involves multiple aspects. It is an approach to multilingualism that celebrates diversity and promotes tolerance and cooperation between different groups of people. It can also be an important part of building bridges between communities and in particular languages (McNelly, 2015, p. 13-14). This also coincides with the increased interest and research on multilingualism which has resulted in new approaches and models that can promote learners' multilingualism, like intercomprehension of related languages and translanguaging. In all these approaches, language diversity is used to promote language learning and is often driving force behind the learning. However, it is also important that learners are aware of their own multilingualism in order to benefit from these approaches (Vikøy \& Haukås, 2023, p. 914-915). Nevertheless, the increased focus and research on this aspect of multilingualism have produced a lot of results that suggest that working with languages as a resource give positive results in language learning.
2.7 Multilingualism as a resource and approaches that support it

As previously stated, there has been and increased focus on multilingualism as a resource in newer years. This increase in focus has occurred not just in Norway, but on an international level. One example of this is the bilingual reality of English and French in Canada. In his study about the language policies and dominant language constellations of families in Canada, Slavkov mentions how having two languages for instruction is a "resource that can be used strategically to augment bilingual and multilingual outcomes" (Slavkov, 2021, p. 104). In other words, having access to multiple languages of instruction is a helpful tool for multilingual pupils. Furthermore, in the core curriculum of Finland, cultural diversity is seen as a fundamentally positive resource, where they specify the multilingual reality of each community and how important this is for both building identities and socialization (Björklund \& Björklund, 2021, p. 134). Therefore, it can be concluded that there are countries that view multilingualism as something valuable and resourceful. This perspective on multilingualism has led to the development of several different approaches to how it can be used in order to strengthen language learning and learning in general.

One of these approaches can be described as a plurilingual approach. Council of Europe distinguishes between plurilingualism and multilingualism by stating that plurilingualism refers to languages from the point of view of their speaker (Council of Europe, 2007, quoted in Rückl, 2019, p. 166). By drawing this distinction, plurilingual approaches manages to focus more on the languages of the individual. As stated by Rückl, one of the main objectives of plurilingual education is to increase awareness of individual language repertoires and emphasize their worth (Rückl, 2019, p. 169). By doing so, this approach uses the languages of the pupils to support their language learning. Through plurilingual approaches, being aware of linguistic differences and similarities become a "desirable and trainable trait" (Vetter \& Jessner, 2019, p. 2). Promoting plurilingual competences, like being aware of the peculiarities of one's own language, has been described as a "necessity in the current world in which we are living" (Sugrañes, 2021, p. 62.) This is because of the increasing amount of people from different cultures and different language backgrounds living in close vicinity to each other. By promoting such competences, it can help build bridges between groups, as was described under "2.4 Teachers beliefs and perceptions regarding multilingual pupils" by McNelly as an important aspect of viewing language as a resource.

A different approach to multilingualism is the concept of translanguaging. Like plurilingual approaches, translanguaging also focuses on using different languages as a resource. As defined by Dmitrenko, translanguaging is about "using varied resources in different languages
to produce an output in another language (Dmitrenko, 2019, p. 202). In other words, by translanguaging, the speaker uses the languages available to them as tools to use a different language. The languages this person has, then become a resource to this person. As discussed by Sugrañes, providing a space for translanguaging to occur, gives learners a space to integrate their languages together and develop their metalinguistic awareness, something that in turn promotes language learning (Sugrañes, 2021, p. 67). Thus, both translanguaging and pluralistic approaches to language learning, both promotes multilingualism in the classroom and uses the languages available as resources that can drive the learning forward. This focus on the learners' language awareness opens the door to a third approach: the Dominant Language Constellation Approach.

The Dominant Language Constellation Approach, or the DLCA, is in many ways similar to both pluralistic approaches and translanguaging. The DLCA uses Dominant Language Constellations to enable students' language awareness and make them reflect on their own languages, after which these languages can be used as a resource (Sugrañes, 2021, p. 62). In other words, this approach also makes use of the learners' languages in order to boost their learning. The concept of Dominant Language Constellation, which will be talked about more in depth under the following sub-heading, is all about looking at the languages in use by any given person. It does not isolate any of the languages from one another, but looks at them like a singular and complex unit where they all influence each other. By using an approach that makes use of the learners' most prominent languages and language usage, the DLCA is able to provide a positive effect on learners' motivation and their attitudes towards learning languages (Sugrañes, 2021, p. 79). Therefore, the DLCA, alongside both pluralistic approaches and translanguaging, all have some principles in common. They all value the linguistic resources multilingual pupils can bring in the language learning process, and they all establish links between the different languages in order to increase awareness around pupils' own language use (Vikøy \& Haukås, 2023, pp. 914-915).

### 2.8 The theoretical conceptualization of DLC

As previously discussed, there are several approaches that have been developed to support language as a resource and put this view into practice. One of the approaches mentioned is the DLCA, which makes use of the learners' Dominant Language Constellations in order to bring awareness to the languages the learners know and use them in a classroom setting. A

Dominant Language Constellation, henceforth referred to as DLC, "refers to the particular configuration of languages, fully or partially known and used, that form a coherent cluster" (Bianco, 2021, pp. 6-7). It is a concept that allows for looking at languages as group, instead of them being isolated from each other. This concept started partly to address the idea that humans are either "naturally, or most efficiently, conceived as monolingual" (Bianco, 2021, p. 4). This monolinguistic view clashes with the newer perspective on multilingualism which points out the complexity of these languages, and how they affect and influence each other. Therefore, when exploring the multilingualism of a person, it becomes more natural to look at all their languages as a whole, instead of as separate, something which falls in line with the concept of DLC.

It is possible to visualize DLCs in a multitude of ways. These visualizations typically fall under one of two categories: DLC maps, and 3D models (Aronin, 2021, p. 34). In DLC maps, one typically writes the most vital languages in the DLC in the center, with other languages being shown in an outer circle or different bubbles all together. With 3D models however, one can show difference in proficiency or importance through e.g. size of the different bubbles. Both representation forms focuses on the relationship between the different languages and what setting they become important. When representing these DLCs, it is important to keep in mind that, unlike the language repertoire, the DLC only consider the languages that enables "an individual to meet all needs in a multilingual environment" (Aronin, 2021, p. 20). In other words, one cannot simply try to put down every language one knows, even partly. Because these visual models are often self-made, this allows for a lot of reflection around the languages one uses regularly and what they are used for, something that can be helpful for language learners' in order to process their multilingualism (Aronin, 2021, p. 37)

A DLC can also be helpful in other ways. With the help of DLC maps and models, it becomes possible to research different patterns in a person or community of speakers' multilingualism (Aronin, 2021, p. 31). These patterns can also be studied in order to see how different configurations of languages change in order to meet the language needs of people as well as forming their multilingual identity (Bianco, 2021, p. 14). In other words, the concept of DLC has a unique ability to showcase the complexity of multilingualism and how they change over time and depending on the circumstances. This also means that DLC gives a different perspective on what it means to be multilingual, as all the languages form a dynamic system that changes and develops, instead of staying static. As stated by Krulatz \& Dahl, "a language may exit a DLC and be replaced by another language, or the balance among the different
languages within the DLC may shift" (Krulatz \& Dahl, 2021, p. 114-115). Thus, it becomes possible to research the languages in a certain point in time, as well as how they differ in importance from place to place.

Because DLC has this unique ability to study the different aspects of multilingualism, it becomes the ideal study method for this thesis. The aim of this thesis is, as previously stated, to study how the languages of pupils in elementary school, get influenced by the languages they use with their family or when watching media. By using DLC maps, it becomes possible to not only get an overview of the languages the pupils use, but how often they use them and what languages they utilize to fulfill their different linguistic needs. This in turn, makes it possible to discuss how these languages can be brought into the classroom and be used as resourceful tools for language learning.

## 3. Methodological Considerations

In order to answer my three research questions, I have used data collected by a project called MetaLearn. This project aims at investigating young learners metalinguistic awareness "and its development in early instructed language learning and to explore how it can be promoted in the classroom" (Western Norway University of Applied Sciences, n.d.). As part of the project, MetaLearn collected data on the language background of several Norwegian pupils in the $3^{\text {rd }}$ grade, through parental questionnaires. The data collected through these questionnaires, formed the basis of this thesis.

### 3.1 Data Collection and material

As stated above, the data was collected through parental questionnaires and thus the pupils themselves did not answer any questions regarding their own language. There were a few different questions asked, but only the relevant questions will be mentioned here. As the parental questionnaires were originally in Norwegian, the translations provided here are my own. Both the parents were asked the following question regarding their own language: Do you speak another language than Norwegian? They were then given two checkboxes where they could cross out "no" or "yes" depending on their answer. If they answered "yes", they were also asked to specify: a) the languages they speak most (from most used to least used), b) what languages they speak with parent 2 (from most used to least used), and c) what languages they speak to their child (from most used to least used). Furthermore, they were
asked a few questions regarding the language of their child. They were first asked: "What is your child's natal tongue", before being asked whether the child can "speak other languages than Norwegian" or "read or write in other languages than Norwegian". Again they were presented with two checkboxes for "yes" and "no" where, if they answered "yes", they would have to specify the language/languages. They were then asked what languages the child uses in different settings when they are not at school. If the child used multiple languages in any of these settings, they were again asked to order them from most used to least used. The questions were presented in the following order: what/which languages do the child normally use when 1) speaking with parents, 2) playing with their sibling, 3) watching Youtube/TV/Movies, 4) playing videogames, 5) playing with friends, and 6) speaking with their relatives (for example grandparents, aunts/uncles, cousins). The parents were also asked whether the child had lived or stayed in a country outside of Norway for more than six months. They were also asked to specify what country if they answered "yes" to this question.

While I was not given access to the original source material used by MetaLearn, I was given access to the answers of these questions through an excel file. In this file, all the data collected through the parental questionnaires, had already been somewhat interpreted and put into their respective columns that organized each of the questions in a clear manner. It was therefore, simple to understand what the different answers were, despite not being able to look at the filled-in questionnaires myself.

### 3.2 Participants

While MetaLearn followed around 179 pupils in these questionnaires, I will be using 35 of the reported answers for this study. These 35 were chosen because of a few reasons. One of the reasons is that they belong to the same school. This was seen as beneficial, as it eliminates some of the differences that could be related to different socioeconomic background and location. Another reason for why this particular school was investigated, is that it seemed to have a lot of linguistic variation between the different pupils. This factor allows this study to more easily look at the relationship between the different languages and differences between maps that contain multiple languages, and those that only have one or two. The school chosen lies in an urban area in Bergen and all the pupils who participated were in $3^{\text {rd }}$ grade at the time of the questioning. While other classes might provide a different outcome than the one chosen, it will nevertheless provide a good insight into the possible landscape one can find in
a Norwegian classroom. Possible differences between schools, will therefore not be explored in the present study, outside of some reflections surrounding this dilemma.

### 3.3 Ethical Considerations

It is important to go over some ethical considerations, before moving on with the method of analysis. They be presented based on the "general guidelines for research ethics" developed by the National Research Ethics Committees (National Research Ethics Committees, 2019). There they present four principles for research ethics: Respect, Good Consequences, Fairness, and Integrity. The main idea of these principles is that participants should be treated with respect, researchers should strive for good consequences of their research, the research project should be fair, and that researchers should comply with recognized norms and behave responsibly. It is believed that this study has followed all these principles.

They also present 14 guidelines that research ethics should follow: Quest for truth, Academic freedom, Quality, Voluntary informed consent, Confidentiality, Impartiality, Integrity, Good reference practice, Collegiality, Institutional responsibility, Availability of results, Social responsibility, Global responsibility, and Laws and regulations. Not all of these are equally relevant for this master thesis, but there will be a short comment on those that are.

This study seeks to find the truth of the matter on DLC maps in Norwegian primary school and has at no point tried to conceal any of it because of bias or otherwise. The thesis has been written in such a way to make sure the quality is of the necessary caliber. While this study could not get informed consent directly from the participants, it did get consent from MetaLearn to use their data. It was also agreed that all the data will not be mistreated in any way and be removed from my personal computer at the end of the writing period. The data has also been treated with high confidentiality, and all participants have been anonymized and kept secret. As previously mentioned, this study has sought to show impartiality when presenting their findings, and as thus has also not falsified any information. This goes to show that the researcher in question has followed their responsibilities to the best of their abilities and treated the data material with utmost respect and care.

### 3.4 Method of analysis

The method used in this thesis will be of a qualitative nature. The data material will be analyzed using the DLC method, where languages will be put into their respective domains, in order to visualize their usage and frequency. This method was chosen partly because of its
unique approach to multilingualism, and also because it is believed that by visualizing the languages, it will become possible to see key differences and similarities in how they are used. By showing and discussing their usage, this study hopes to provide an insight into the languages used in Norwegian classrooms, especially with younger children. It will also become possible to discuss how teachers can take advantage of this information, when designing lesson plans and otherwise.

## 4. Analysis

By looking at the data material, the following domains were identified: "Family", "Media", and "Friends". While the domain of "Friends" is simply the languages the children use when playing with their friends, the other two domains are more complex and involve multiple questions. The "Family" domain, makes up all the questions relating to family members in any way, such as languages spoken with parents, siblings, and relatives. The "Media domain on the other hand, is made up of the two questions: "what/which languages do the child normally use when watching Youtube/TV/Movies", and "what/which languages do the child normally use when playing videogames." Based on the nature of these domains and how they are made up, the following DLC map was developed.


Figure 1. The DLC map outlined for this study.

In this map, what makes up and defines the overall DLC of the pupil, will be the three domains: "Family", "Media", and "Friends". These three domains are again connected to smaller bubbles that relate to their corresponding questions. The arrows between the "Overall DLC" and the three domains, hope to show how the different domains affect this constellation overall, and is also mutually affected by the overall languages back. Moreover, the singular arrows show who speaks to whom in the family domain, as well as what makes up the media domain in detail. All the languages reported in the questionnaire, was directly put into what is called the "outermost circles" outlined in yellow below:


Figure 2. The outermost circles
The languages were also written up in such a way that it reflects the order the parents reported when writing down multiple languages; the most frequently used language was written above the less commonly used languages. The order of these, then formed the basis for the following two "outer circles" outlined in green:


Figure 3. The outer circles

In cases where there was doubt about what languages should be written above others, the languages that occurred more frequently were prioritized. Languages used by the pupil where also rated higher than the ones parents spoke to them. In the media domain, if the two outermost circles contained different languages, the languages reported in the "Youtube/TV/Movies" bubble, where written above others. Languages written at the top, acquired the label "preferred language" as it was deemed the language that the pupil seemed to prefer using in the different domains.

Lastly, the two outer circles, along with the "friends" domain, where used to create the "Overall DLC":


Figure 4. The Overall DLC circle

This circle was made to reflect the overall dominant language constellation, and what languages the pupil prefers based on these domains. In cases where there were different preferred languages to choose from, frequency of usage was prioritized. Languages used in the family domain was also put higher than both languages used in "Friends" and in "Media". This was because it was seen as an important part of the languages the pupil interacts with when away from school, and also where their basis in language learning comes from. It was
also seen as the domain where the pupil most likely use their languages actively, as opposed to with media, where they are more likely to use language in passive activities like reading and listening.

When looking for an example to show how the languages were put into the DLC maps, nr. 10 was chosen, as it has multiple different languages in the different circles, and as such showcases what happens when the domains differ from one another.

At first the languages were put into the outermost circles, ordered top to bottom based on reported frequency:


Figure 5. Example of the outermost circles filled in

In this map it becomes possible to see that the child uses primarily Norwegian when talking with their parents, playing with siblings, playing with friends, and when watching YouTube and other video formed media. They also prefer using English when playing videogames and use Russian when talking to relatives. All the languages appear in at least two circles, although their frequencies vary. It would also seem as though Azerbaijani is the least preferred languages, in the areas where it is used at all. These initial findings and thoughts, was used to make out the outer circles:


Figure 6. Example of the outer circles filled in, based on the outermost ones.

In the media domain, English was chosen to be above the other languages as it was the only language that appeared in both bubbles. Directly beneath it came Norwegian, as it is most commonly used in when watching Youtube, TV or movies. Lastly came Russian. As the questionnaire did not ask about how frequently the child uses these different media forms, this was not taken into consideration when determining the order of the languages. Moving on, the family domain has Norwegian as highest language as it is usually the language both the parents and the child use with each other and with their sibling. Afterwards came Russian, and lastly Azerbaijani.

After filling out the outer circles in the DLC map, it is finally time to fill in the innermost circle titled "Overall DLC". This circle shows what languages are the most important for the pupil and what languages they use in all the areas previously explored. The languages in this circle are determined by the languages in the "Friends", "Family", and "Media" domains.


Figure 7. Example of the Overall DLC filled in, based on the outer domains.

Norwegian was chosen as the most important language as it is above the other languages in both the "Family" and the "Friends" domain. It is also high in the "Media" domain, although it is not labelled as "preferred" here. Afterwards, English was selected as it was the most commonly used language in the "Media" domain. The other languages, Russian and Azerbaijani, were reported less frequently in the different domains, with Azerbaijani being the least used. As such, the order they were placed in, reflects this frequency. Therefore, the languages ranked from most to least frequently used in the DLC were: Norwegian, English, Russian, and Azerbaijani. It is important to note that the order these languages appear in, do not necessarily correspond to how proficient the pupil is in them. It simply acts as a predictor for what language they tend to use in most situations in their DLC and thus the language that is viewed as most "important" for them when looking at these particular domains. The "Overall DLC" in these maps, also do not correspond to what languages the pupil themselves
feel is most important to them. As other domains such as languages spoken at school and at extracurricular activities is not taken account of, the actual frequency of the different languages could vary from what is shown here. Nevertheless, it is believed that these maps can provide insight into the languages used outside of school, that pupils inevitably get affected by. These maps can also show how important these domains are in establishing what languages the pupil likes to use when interacting with different people and forms of media. Therefore, the maps presented here are able to showcase some, if not most, of the languages children bring with them when they go to school.

## 5. Findings and Results

In total, there were 18 different languages mentioned across all the DLC maps. Some of these languages were only found with the parents. These were: Portuguese, Luxembourgish, and Dutch. The pupils interacted with the other 15 languages as well as the parents. Norwegian was found in all the DLC maps and often played an important role in the pupils' life. In fact, it was found to be in the top spot in 31 of the 35 maps, and in 14 of the maps it was the only language the pupil directly interacted with. The second most found language was English, as it was present in 15 of the maps. Another language that was found on more than one map was French. This one was found in two of the maps, making it the third common language. All the other language were only found on one map each, making for 10 DLC maps containing a separate language to the ones previously mentioned. These languages were, in no particular order: Uyghur, Tigrinya, Danish, Swedish, Russian, Azerbaijani, Somali, Arabic, Turkish, Serbian, German, and Spanish. While some of these languages were also found on other maps contained within a parent bubble, the pupils in those maps did not come in direct contact with these languages. Thus, these 12 languages are still classified as only appearing on one DLC map each.

### 5.1 The Outermost circles

As explained earlier, the outermost circles describes the direct answers from the parental questionnaire. While most of the parents reported speaking more than one language, there were a multitude of maps that showed that the pupils themselves only directly interacted with one language. The data shows that 59 of 67 , or about $88 \%$, of parents spoke more than one language, while 21 of 35 , or $60 \%$, of pupils interacted with more than one language. Moreover, in 5 of the 8 maps where parents reported only speaking one language, the pupil
also only interacted with that language. In the other 3 maps, parents reported that their child also used in English when interacting with media, in addition to Norwegian.

### 5.2 The Outer circles

The outer circles describing languages in the "Family" and the "Media" bubble, are as previously mentioned influenced by the languages the pupil is in direct contact with in the outermost circles. When looking at the family bubble, 19 of the 35 maps only had one language that the pupil directly interacted with. Moreover, in 18 of these maps, the single language used was Norwegian. In the other map, the single language used was Turkish. 12 of the 35 maps had two different languages in the "Family" bubble and the other 4 maps had three or more languages. In contrast, looking at the "Media" bubble, there were 17 maps with only one language, 15 maps with two languages, and 3 maps with three languages. Moreover, in the 17 maps with only one language, there was only one map that had English, while the other maps showed the pupils preferring Norwegian. Furthermore, when looking closely at what languages are present in the different bubbles and where they rank in comparison to each other, it is possible to establish a trend.

In the "Family" bubble, the vast majority of all DLC maps included Norwegian except for two maps: nr. 17 and nr. 32. The two maps showed that the two children interacted with Turkish, and Serbian and English within the family respectively. Nr. 17 was also one of the 19 maps that had only one language in the family bubble. This shows that most pupils only need to use one language to fulfill all their linguistic needs within the family. Moreover, in 12 of the maps there were two languages in the family bubble. There were only three maps where the children interacted with three different languages and one where the pupil interacted with four different languages. In all these four maps, the child prioritizes the use of Norwegian in most cases. Norwegian also seems to be the preferred language in most family bubbles, as it is above all other languages in 32 of 35 maps. Norwegian was also a popular language in the media bubble.

In the "Media" bubble, all the DLC maps contained Norwegian. Moreover, Norwegian was ranked as the highest contributing language within this domain in 26 of the 35 maps. In the other 9 maps, the highest contributing language is English, with only one map showing Turkish as the most dominant language instead. Speaking of English, this language was present in 15 of the DLC maps in this domain. In 9 of these cases, English was also found in the family bubble. In six of these nine cases, English was also more widely used in media than
it was in the family bubble. Nevertheless, most maps showed that pupils preferred to use the same language in media as their preferred language in family. In fact, there were only 8 maps where the pupils showed a preference for a different language, all of them choosing English instead. In two of these 8 maps, English is not present at all in the family bubble and only appears in the media bubble. Furthermore, another two only use English when talking to their sibling, and map nr. 35 seems to use English more with siblings and relatives than with their parents. However, in map nr. 6 the opposite seems to happen where the parents are the only ones using English with the child, the child does not seem to be using it back. Meanwhile, map nr. 27 and nr. 7 seem to use English in a few more situations. Therefore, this group of pupils do not seem to follow any uniformity.

When looking at the number of languages present in the media bubble, it seems to generally be very similar to the family bubble. In the media bubble, there are only three maps that all use three different languages, in contrast with the four maps that used three or more languages in the family domain. The other 32 maps use either one or two different languages. Moreover, while 12 maps only two languages in the family domain, 15 maps used two languages in the media domain. Like previously discussed, most of the maps apart from 8 , showed a preference for the same language in the media and family bubbles. In fact, the overall majority of maps contained the same languages in both the family and the media domain. This was true for 22 of the maps, and in 20 of these cases, the order and preference of languages remained the same. Meanwhile, five of the maps had a language in the family domain that was not precent in the media bubble, and another five had a language present in the media domain that was not found in the family bubble. The last three maps had different languages appearing in the two domains. All three had at least one common language between the two, but this was not necessarily the preferred language in these two domains.

### 5.3 The Inner "Overall DLC" circle

The inner circle of the DLC maps describes the "overall DLC" the pupils showcase outside in situations outside of school and extracurricular activities. This circle describes what language preferences these pupils have when talking to family members, friends, and when interacting with media. In this circle, the languages the pupil uses with family and friends were often put above other languages more preferred in media. An example of this, would be map nr. 32 where Serbian was written as the highest language as it is used predominantly in the family domain, and also a little with friends. As all languages appear an equal amount of times within
the three bubbles of Family, Friends, and Media, this did not act as a factor in determining the language order in the "Overall DLC".


Figure 8. Map nr. 32

A map where the number of appearances did play a factor was map nr. 1. In this map, despite not being the preferred language in the family or media domain, Norwegian appeared in all three bubbles, being the only language to appear multiple times. It was also the only language used with friends, and as such was determined as the highest language in the "Overall DLC". After that, the choice came down to Uyghur which was highest in family and English which was highest in media. Here, family still weighs heavier, as it is seen as a more active language arena than using language in media.


Figure 9. Map nr. 1

With this in mind, most maps found themselves in one of two groups: only containing Norwegian or having Norwegian as the preferred language overall. There were only four exceptions: nr. 6, nr. 7, nr. 17, and nr. 32. In the first two of these four maps, the preferred language was determined to be English. This language seemed to be especially prevalent in the "Friends" and "Media" bubble. In the other two maps it was Serbian and Turkish, respectively. These were also the same two maps that did not contain Norwegian in the family domain.

Most maps contained at least one other language aside from Norwegian. In fact, 21 of the 35 maps contained two or more languages in the DLC as a whole. English was present in 15 of these maps, making it the second most popular language in the pupils' DLC's after Norwegian. In 11 of these maps, it was the second language from the top, and in 2 of them it was the preferred choice in most areas. Thus, English seems to play a significant role in these pupils' DLC.

The reported natal tongue, seems to correlate strongly with what language the pupils have in their overall DLC. In all but one case, the reported natal tongue was present in the DLC. However, the natal tongue is only determined to be the preferred language in 28 of the 35 maps. In other words, in 7 of the maps the pupils use a different language in more settings. In five of these maps, the pupils seem to prefer Norwegian and in the other two, they seem to
prefer English. Nevertheless, the initial reported information about the pupil's natal tongue and the other languages they know, is a good predictor for what languages they use in the different settings outside of school. In 25 of the 35 maps, the information provided regarding the languages they know and speak, matched the languages in the "Overall DLC". In 4 of the maps, the parents reported that their child is able to speak, read, or write in a different language, which was not found in the pupil's DLC. Similarly, in the remaining 6 maps, the pupils used a language that was not reported in the initial information from their parents. This is considering that the parents were asked what languages the pupils know aside of Norwegian, and thus cases where Norwegian was found in the overall DLC, but not in the initial information, was ignored. In other words, these 6 maps contained a language that was not Norwegian in the DLC.

The languages the parents of the children speak, is seemingly a good predictor for what languages the pupils prefer to use in most settings. In 33 of the 35 DLC maps, either one or both of the parents' top language or the language they mentioned first, is in the DLC. In 29 of these 33 cases, both parents' top language was also the first or second preferred language in the DLC. However, there were only 16 maps where all of the languages the parents had was present at all in the pupils' DLC. Furthermore, there were also some cases where the child knew a language that the parents did not mention knowing themselves. In two of these maps, the child had Norwegian in their overall DLC, a language they use with both media and friends. These two maps were nr. 17 and 32. In six other maps, the child knew and used English, despite this not being listed with either parent. These six maps were: nr. 1, nr. 3, nr. 10 , nr. 16, nr. 18, and nr. 30 . There were also two cases where the child knew a different language from only one of their parents: nr. 8 and nr. 25 . In both of these cases the languages were Scandinavian; one contained Swedish and the other Danish.

The languages the child prefers to use in the overall DLC is heavily influenced by what languages they prefer to use in the family and the media domain. In 27 of the 35 maps, the language determined to be the highest in the DLC was also highest in both the family and the media bubble. Furthermore, in five of the maps the language at the top in the DLC was only on top in the family bubble and not in media, and in two languages preferred in the DLC was highest in the media bubble and not in the family. This leaves only one map where the language written above all other languages in the overall DLC, was not on top in either the family or the media domain. This map is nr. 1, where the preferred language was determined to be Norwegian because it appeared in all of the three determining bubbles, unlike the other
languages mentioned who only appeared in one bubble each, although they were the preferred languages in those bubbles. Norwegian was also the sole language used when talking with friends, which could mean that the friends bubble is a good predictor for what languages the pupil prefers to use in their DLC.

In order to check whether or not the friends bubble had a great influence on what languages appeared in the "overall DLC", it is possible to compare the languages found within the bubble in comparison to the other domains and the "overall DLC". There were zero cases of a language only appearing within the friend's bubble. In all of the DLC maps, the languages found within this bubble was also found in either the media or the family bubble. The languages were also usually found within both of these other two domains, with the exception of three maps: nr. 17 , nr. 32, and nr. 35 . In both 17 and 32 's case, the language was found in media but not in the family. The language was also the preferred choice when talking with friends. In nr.35's case however, the language was only found in the family domain, and not in media. The language was also not the preferred choice in either of the two bubbles.

When compared to the languages that ended up in the "overall DLC" and what order they were in, 33 of the maps showed that the same language on top in the inner circle, was also on top in the friend's bubble. The only exceptions were map nr. 17 where Turkish was on top in the "Overall DLC", and nr. 32 where Serbian was on top. Both maps showed a preference for using Norwegian when talking with friends. Most of the maps also showed that the same language preferred with friends, was also preferred when talking with family members or when working with media. 30 of the maps had the same language on top in both the family and friends bubble, and 28 had the same language on top in the media and friends bubble. The five exceptions to the family comparison were: nr.1, nr. 6, nr.7, nr.17, and nr.32. While nr. 6 and nr. 7 both preferred speaking Norwegian with family and used English with friends, the other three maps showed a preference for Norwegian with friends and Uyghur, Turkish, and Serbian, respectively, with family. Nr.1, 17, and 32 were also among the seven exceptions when comparing with media, alongside nr. $10,16,27$, and 35 . When comparing with media, all the seven exceptions preferred Norwegian with friends, and all but one used mostly English with media. The only map that did not use English in media was map nr.17, which showed a preference for Turkish.

In order to check the significance of the "Friends" bubble in determining the order of languages in the "Overall DLC", the DLC maps were re-evaluated through a process where the "Friends" bubble was ignored. Only four maps showed a difference in what order the
languages would be in if the "Friends" bubble was not a determining factor. These maps were: nr. 1, nr. 6, nr. 7, and nr. 32. In map nr. 1 the preference for Norwegian was heightened by the fact that the child only used this language when speaking with friends. In addition to this, it was the only language that appeared multiple times throughout the three bubbles. However, if the "Friends" bubble was a non-determining factor, the language order in "overall DLC" would be Uyghur highest, then English, and lastly Norwegian. This would be because Norwegian then would not be a preferred language in either bubble, which lowers its status significantly, despite being in both bubbles. Similarly, in map nr. 6 and nr.7, English was given a higher status in the DLC as it was the preferred language to use with friends in both of these maps. However, without the "friends" bubble, Norwegian would be the first language in the "Overall DLC", as it is preferred with family which places it higher than the language preferred in media. English would then come second, and in map nr.7, Spanish would still be the last language in the order. In map nr. 32 , the change would not necessarily affect as much as in the other maps. The preferred language in the "overall DLC" would still be Serbian, as it is heavily preferred when speaking with family. However, the other two languages would swap places so that English becomes second most preferred and Norwegian last. In the other 31 maps, the disappearance of the "Friends" bubble, would have no affect on the languages present or what order they are in.

### 5.4 Patterns within the constellations

When looking at the different DLC maps and comparing them to each other, there are several patterns that repeat themselves. For one, there are 14 maps which only contain Norwegian in the different bubbles the child interacts with. These 14 maps are: nr. 2, nr. 4, nr. 9, nr. 11, nr. 12 , nr. 13 , nr. 19 , nr. 22 , nr. 24 , nr. 28 , nr. 29 , nr. 31 , nr. 33 , nr. 34 . At first glance these maps seem to be a very homogenous group, but at closer inspection it is possible to find a few select differences between them. Most of these differences lie with the languages the different parents speak, but a few differences can also be found by looking at the initial information provided by the parents. For example, map nr. 2 shows that the child knows English and has also lived in the US for more than six months. With nr.13, the parents also report that the child can speak English. To what degree either of these children can communicate in this language is unknown.

There are also several maps with English somewhat present in one or more domain. These maps are: nr. 3, nr. 15, nr. 18, nr. 21, nr. 26, nr. 27, nr. 30. In four of the maps, nr. 15, nr. 18, nr. 26, and nr. 30, English was only found in the media domain. In the other three maps,

English was present but to a more varied degree in multiple bubbles. In nr. 3, the language could be found in all bubbles, but played a small role in family. In nr. 21 and nr. 27, English was used in both the family and the media domain. In map nr. 27 it was also written on top of Norwegian because it was primarily used when watching YouTube, movies, and tv-series. However, it was not used when gaming, and thus might not be used more often than Norwegian when it comes to media in reality.

Other similarities can be found between the maps that contain different languages than English and Norwegian. One example is the two maps nr. 5 and nr. 25, where the maps look almost identical aside from one containing the language Tigrinya and the other containing Swedish. There are also four maps that all have the same exact languages in the same order in both "Media" and "Family". These maps are: nr. 8, nr. 14, nr. 20, and nr. 23. In map nr. 8 the languages present are Norwegian and Dutch in that order, and both map nr. 14 and nr. 20 has Norwegian and French in that order. Map nr. 23 has three languages in these two domains and they appear in the order of Norwegian, English, and German.

While comparing the different maps, there are also several maps that stick out. One of these is map nr. 1 which is the only map where the language on top in the "Overall DLC", is not on top in either the family or media domain. Other maps that stick out are nr. 6 and nr. 7, which were the only two maps where the children used English in more settings, despite their native tongue reportedly being Norwegian. Map nr. 10 and nr. 35 inevitably stick out, as they are the only two maps with four different languages in the "Overall DLC", and nr. 16 sticks out as it is the only map where the reported natal tongue does not appear anywhere in any of the bubbles or domains the child interacts with. Nevertheless, the two maps that seem to stick out the most are nr. 17 and nr. 32. These two maps were often amongst the exceptions when checking how the different domains impacted each other and the "Overall DLC". There are several reasons for why these two maps appear so differently from the other maps. For example, they are the only two maps that do not have Norwegian in any of the bubbles within the "Family" or "Media" domain. Thus, Norwegian did not affect the order of languages within the "overall DLC" as much as the other maps, which also made them among the four maps where Norwegian was not on top within the "Overall DLC"; The other two, as previously stated were nr. 6 and nr. 7. Despite not speaking Norwegian within the family domain, both map nr. 17 and nr. 32, used Norwegian with friends and when interacting with media. Norwegian was also the preferred language when speaking with friends, making these two maps the only maps where the preferred language in the "overall DLC" is not the same as
the one that is preferred with friends. This also made them among the five maps where the preferred language when speaking with friends is not the same as the one when speaking with family, the other three maps being nr. 1, nr. 6, and nr. 7. They were also among the seven exceptions when comparing the top language in "friends" with the one in "media", the other ones being nr. $1, \mathrm{nr} .10$, nr. 16, nr. 27, and nr. 35 . Map nr. 17 was also the only one of these that did not prefer using English in media.

## 6. Discussion

There are several points of interest as introduced under the "Results and Findings" chapter. To address these different points, the "Discussion" will be split into two main halves. The first half will discuss the different parts of the results and findings as well as some possible shortcomings of the study and/or any possible explanations for what was shown in the different DLC maps. Here, the findings will also be compared to what one could expect to find in Norwegian classroom as seen in the theoretical background. In the other half, the research question and sub-questions will be discussed and possibly answered. Afterwards, there will be a discussion about the possible implications and ramification this study has for teaching in the Norwegian classroom and using language as a resource.

### 6.1 Discussing the outermost circles

During part 1 of the "Results and Findings" it was discussed what languages could be seen in the study and how many of the participents spoke or interacted with the different languages. The languages relevant for the pupils DLC were: Norwegian, English, French, Uyghur, Tigrinya, Danish, Swedish, Russian, Azerbaijani, Somali, Arabic, Turkish, Serbian, German, and Spanish. Some of these appeared multiple times, notably Norwegian, English, and French, while the others only appeared once. Some of these languages are more commonly found in Norwegian schools than others. For example, when comparing these languages to the ones reported by teachers in the report "Rom for Språk", three languages in particular showed up in both this study and their report: English, Arabic, and Somali (Pran \& Holst, 2015, p. 8). Other languages that were reported often, such as Polish and Lithuanian was not found amongst any of the participants in the present study. Languages such as English, Arabic, and Somali, also seem to be common amongst refugees as these languages were also found in the study on the Dominant Language Constellation of two adult refugee groups in Norway (Krulatz \& Dahl, 2021, p.123). Tigrinya was also mentioned in this study as it appeared
frequently there, and it was also found in one of the DLC maps. The English language is also commonly found amongst Norwegian speaking residents, as it seems to hold a complex position in Norway as a language (Myklevold, 2022, p.16). Because English is taught in all Norwegian schools starting from $1^{\text {st }}$ grade (Krulatz \& Dahl, 2021, pp.113-114), it is therefore not surprising that the language was found amongst a good handful of the participants. It was also reported as a language that the pupils were able to speak to some degree amongst 15 out of the 35 participants.

The appearance of German, French, and Spanish also seem to correlate with the findings from the report "Rom for Språk", where they mention that the pupils themselves reported more of these Western-European languages than the teachers when asked what languages they speak (Pran \& Holst, 2015, p.11). In their report, Pran \& Holst concluded that this difference could be caused by a different viewpoint of what it means to truly "speak" a language, and pointed out that the pupils could have a less strict definition, leading them to count smaller instances of using words from different languages as "knowing" these languages. This explanation does not quite suffice in the present study, where these pupils actively use and interact with these languages to fulfill different social or linguistic needs. That being said, the four maps this applies to, all use these languages to a minor degree, and thus, they might not be as important as the other languages in their daily lives. Other languages that were found to a smaller degree were Swedish and Danish, which might be commonly found in Norway as they alongside Norwegian, make up the three official languages in Scandinavia. These three languages also have a lot in common with each other and as previously mentioned in the background, most if not all Norwegians will be able to understand both Swedish and Danish with relative ease (Vikøy \& Haukås, 2023, p.912). Therefore, it is not uncommon to state that one can use these languages despite never having any formal training in them. This could mean that, despite knowing some words and phrases in Swedish or Danish, these pupils do not necessarily "speak" the languages in the way most people think of this ability. Nevertheless, both these pupils and the ones with Spanish, French, and German, would be able to use what they know as resources in the classroom, as they have some knowledge and experience with these languages. The same is true for all the languages in the study. Seeing that over half of the pupils in the study interacts with more than one language, there is a lot of potential when it comes to language teaching and using languages as a resource. These languages all appear to have different levels of importance based on what the pupils use them for, and the languages that are more often used are presumably easier for the pupils to access when they need to
make use of them as resources. Therefore, it is a good idea to look closer at what languages appear in the outer circles of "Family" and "Media" in order to determine how they fulfill the linguistic needs of the pupils in these contexts.

### 6.2 Discussing the outer circles

In the family bubble, it was determined that slightly over half of the pupils, or 19 of the maps, only interacted with one language. In media, the number of pupils who only used one language was determined to be 17 of the maps which is slightly under half. In other words, there are more pupils that only need to use one linguistic resource when talking with family members. In addition to this, there are 12 maps that use two different languages with family, and 15 maps that use two different languages while interacting with media. In other words, 31 of the participants were able to fulfill all their linguistic needs with their family using one or two languages, and 32 of the participants needed one or two languages for all their linguistic needs in media. This then, accounts for most of the pupils, with the exceptions being nr. 7, nr .10 , nr .23 , and nr .35 . All these maps have more than two languages in the family domain and all but nr. 7 has three languages in the media domain. Interestingly enough, all of the maps seem to prefer using Norwegian with family and either Norwegian or English with media. Other languages seem to either be less preferred in these instances or not used at all despite the pupils reportedly being able to speak these languages.

Norwegian is also included in all other maps in these two domains, apart from nr. 17 and nr. 32, where the pupils use other languages when communicating with their family. This could be explained by the pupils having a lot of exposure to the Norwegian language, as it is the primary language used in Norwegian schools, Norwegian media, and spoken by the vast majority of the population in Norway. Thus, the pupils could prefer this language as it is the one they are mostly surrounded by while living in this country, despite possibly knowing other languages. It could also be that they, alongside their tutors and parents, have created an idea that the Norwegian language is in some ways more important or valuable to the Norwegian society than other languages. This was, as previously mentioned, a problematic perspective that Vikøy \& Haukås found when investigating different language curricula and the transition model offered to language minorities (Vikøy \& Haukås, 2023, p.915). Furthermore, they showed that certain languages like English and German seem to be valued more when classifying who is and is not multilingual. Such a perspective could offer a different explanation for why some parents or pupils would be less strict than others when
counting what languages, they can and cannot speak. By being less strict and defining smaller instances of using a language as a child properly knowing said language, one could then pass of their child as more multilingual or being able to speak a more valuable language to society. However, it is not possible to determine whether this was the reason for what languages appeared or in what order they appeared in in this present study.

When interacting with media, the favored languages seem to be Norwegian and English. All the DLC maps contained Norwegian in some capacity in this domain, and 15 of the maps contained the language English. Moreover, in 26 of the 35 maps Norwegian was the preferred language in the domain, while the rest preferred English. There was only one exception of this, showing Turkish as the preferred language. Seeing that the majority of the pupils consume Norwegian media, can be explained by them primarily being exposed to this media through their school or their own social circles. The use of English in this domain could also be explained by extensive exposure to this language in media. As explained by Krulatz \& Dahl, English media has become increasingly more popular with younger children coinciding with the rise of streaming and video platforms such as YouTube (Krulatz \& Dahl, 2021, $\mathrm{pp} .113-114)$. Thus, these pupils could simply be using these two languages more as they are easier for them to access.

There is also a strong correlation between the languages the pupil prefers to use with their family and the one they use when interacting with media. In all but 8 maps, the pupils preferred to use the same language in the family domain as in the media domain. In addition to this the 8 maps that had a different language in the media domain, instead preferred using English. This, alongside the accessibility of Norwegian and English media, could be explained by their proficiency levels in the different languages. Pupils seem to prefer using the same languages when interacting with both domains, and as such are likely to be proficient in said language. Therefore, they might be favoring media that uses a language they are already familiar with and use in other settings, such as Norwegian and English. There are only two maps where the pupils prefer a language in the media domain, that is not present at all in the other bubbles. These two maps are nr. 1 and nr. 10. In both cases, the pupil prefers using English, which again can be explained by the availability of English media. Therefore, it is possible to conclude that the language the pupils use when interacting with their family, is the strongest predictor for what language they prefer using in other settings. Afterwards, different factors like what media is readily available and is likely to be shared with the pupils apply. This also coincides with how the pupil is more actively using the language in the
family domain, as opposed to the media domain, where they are more likely to mostly listen and read the different languages.

### 6.3 Discussing the Overall DLC

As previously stated, most maps seem to both contain and prefer Norwegian. For a handful of maps, it was also the only language the pupil needed to use in the different bubbles. The reason for this, is probably that most people in Norway communicate in Norwegian. Thus, most pupils probably find themselves in situations where using Norwegian is the easiest to make themselves understood. However, this does not fully explain cases where the child prefers using Norwegian with their family. If their parents are both Norwegian speaking people, then it makes sense for the child to also communicate with them in Norwegian. However, there are some cases where the parents both speak a different language to Norwegian and the child still prefers using Norwegian with them. One example of this is in map nr. 35, where the pupil mostly speaks Norwegian back to the parents, while the parents mostly speak Somali and Arabic back to them. The pupil also prefers using Norwegian with their sibling, something that could be explained by a possible increased proficiency in Norwegian, as opposed to their other languages. If this is the case, it could be due to an increased availability to Norwegian and exposure to the language. However, they could also prefer using the language for other reasons, such as simply liking it more for various reasons.

There are also some maps that do not prefer Norwegian. In two of these maps, nr. 6 and nr. 7, the preferred language is English. When talking with family, they both usually use Norwegian. The reported natal tongue is also said to be Norwegian, which could point to their proficiency with the language. Despite this, they both prefer using English with friends and when interacting with media. When it comes to the media, it has already been discussed how English media has increased in popularity and is easily accessible for younger children in Norway. Preferring the English language when talking with friends, however, is more difficult to explain. It could be that they have more friends who speak different languages, and thus use English as a lingua franca. Another explanation could also be that they for some reason prefer using English with their friends, despite their friends knowing Norwegian. As they are the only two maps that show a preference for English with friends, they could point towards either explanation.

There were also two other maps that preferred a different language than Norwegian overall: nr. 17 and nr. 32. Both maps seem to use a different language almost exclusively within their
family domain. Map nr. 17 prefers using Turkish and uses this language within all the domains. It is preferred both in the family and when using media, but is used less than Norwegian when talking with friends. One explanation for why Turkish is used less in this instance, could be that there are simply less children around that speak the same language. A similar explanation can be used with nr. 32, which also prefers using Norwegian with friends, while still having Serbian as the first language in the "Overall DLC". They seem to use Serbian almost exclusively within their family, while only using English sometimes with their sibling. However, they do not use Serbian when it comes to media, and instead opt for English and Norwegian. While it can only be assumed what their proficiency level is in all these different languages, it can be surmised that they are able to use them to satisfy their linguistic needs in these different domains.

It would seem as though most maps need two or more languages in order to fulfill all their linguistic needs outside of school and extracurricular activities. There were 14 maps that were able to use only one language, that being Norwegian, in all the different domains. The other 21 maps used either two or more languages. In 15 of these other maps, English was one of these languages, making it an important language for many of these pupils. There could be various reasons for why these 21 maps end up using multiple languages. One is that their parents speak different languages, which in turn means that they themselves end up using multiple languages back when communicating. Another reason could be that they have access to media in multiple languages or that they have friends that can speak different languages. It is unfortunately difficult to tell in this study exactly why the different languages are used and for what. Nevertheless, it would seem as though it is common for most of these pupils to both encounter and use multiple languages. In addition to this, the languages they prefer using in one domain is often used in other domains.

As previously stated, 27 of the maps showed that the language preferred in the DLC, was preferred in both the family and the media domain. Furthermore, in seven of the other maps, the language on top in the "Overall DLC" was also preferred in either the family or the media domain. That means that there was only one map where the preferred language was not preferred in these two domains. The preferred language was, however, on top in the friend's domain, which proves that it was still an important language for this individual. Therefore, it can be inferred that pupils typically like using one or two languages in order to satisfy their linguistic needs most of the time. Other languages then, are more in the background to be used as resources for smaller instances where it is relevant. It could also be that the pupils
purposefully put themselves in situations where they can use the languages they are most proficient in, and avoid other situations either consciously or subconsciously. However, this would be more difficult to accomplish with people one typically associates with on the daily like family and in some instances friends.

Speaking of friends, almost all of the maps showed a preference for using the same language in this bubble, as in the "Overall DLC". In the only two exceptions to this, the maps used Norwegian with friends instead, which could, like mentioned previously, have to do with the number of children who are able to speak Norwegian in contrasts to other languages. Therefore, the languages used in this bubble are mostly based on the languages the child is already able to speak and prefer using in other instances, unless there is an increased need to use a different linguistic resource. This could also mean that if there are more areas where the pupils are able to use different languages, they will make more of an effort in using these different languages, instead of relying solely on the language they are most proficient in. It would also seem that in a few of these cases, the pupils are able to use different languages than those they use when speaking with friends. This could also translate into them only using certain languages when in school settings, which would make it more difficult for teachers to be able to ascertain what languages any given pupil knows.

### 6.4 Constellational patterns

When looking at what patterns seem to be common and uncommon in the different maps, it becomes clear just how prevalent Norwegian is in the daily lives of these pupils. There are 14 maps that only use Norwegian to fulfill all their needs in the different domains, and the main differences between these maps can only be seen when looking at what languages the parents know and speak with each other. While some parents report being able to speak more than one language, others do not. This difference could come from different interpretations of being able to "speak a language", but there are nevertheless differences in what languages the parents use with each other. Whether the child is able to pick up on any of the words the parents use with each other in another language or not, is unclear. If they can pick up on it passively, it would give some of these pupils more of a linguistic database of sorts to draw from when they need to use different linguistic resources. This would then give these pupils an advantage in certain situations over the pupils who seemingly only hear Norwegian at home and in media. Furthermore, there are a lot of maps that report the pupils both knowing and using English to some degree. Since all pupils at this age have received some education in
the language, they should all have proficiency to some degree in it. However, there are only a handful of pupils that find themselves using and preferring English over other languages. This could again be explained by either a difference in preference or proficiency in the language.

Slightly under half of the DLC maps, contain a language aside from English and Norwegian. Moreover, in most of these cases the parents usually uses Norwegian when talking with the pupil and thus, they usually respond mostly in Norwegian. There are other cases, though, where the parents use a different language with the child. Some of these cases include nr. 1 where the parent speaks mostly Uyghur to the child, and the child responds mostly in the same language. There are also cases where the two parents speak a different language to the child, and the child prefers one of their languages over the other. Such a case would be nr. 14 where one parent usually uses Norwegian, and the other one usually uses French. The child in this case usually uses Norwegian with their parents, but it could also be interpreted as the child responding in the same language that they are being talked to. However, there is one map where the child usually uses a different language all together from both of their parents. This would be nr. 35, where the child usually uses Norwegian with the parents, despite the parents using mostly Somali and Arabic. Nr. 35 was also one of the maps that stuck out from the others in several comparisons. One of the reasons for this, could be that this map is one of the two maps that contain four different languages. This inevitably means that the pupil needs to balance how they use the different languages and in what settings certain languages are most useful. For the pupils that only have one or two languages in their system, they are more likely to use the same languages in the same order in different settings.

Other maps that stick out is nr. 1, nr. 10, nr. 17, and nr. 32. What these maps have in common, is that they all contain a different language than Norwegian and English. These languages all appear to varying degrees within the maps but are all used to an extent in the family domain. There are also other maps that stick out because of other reasons like with nr. 6, nr. 7, and nr. 16. While nr. 6 and nr. 7 simply stick out because they prefer English in the "overall DLC" despite not using it much in the family domain, nr. 16 sticks out because of the lack of the reported natal tongue in the DLC. There could be several for this. One reason is that the parent answering the questionnaire had a different interpretation of the term "mother tongue" and thus put down the language of their family or of the mother in the family. Another reason is that the pupil simply prefers using other languages despite being proficient in another language. Either way, this pupil like many others, uses Norwegian primarily with their family. This goes to show how the DLC map does not provide a full understanding of what languages
and linguistic resources these pupils have available to them, only what languages they prefer to use in the different settings.

Based on the theoretical background, it becomes clear that it should be expected that most of the pupils are able to speak Norwegian. It is also no surprise that English was so common, and especially in the media as it has been pointed out by Krulatz and Dahl that English media is increasingly more popular with younger children in Norway (Krulatz \& Dahl, 2021, pp. 113114). None of the recognized minority languages of Norway was found, which could be explained by them simply being that little common in Norwegian classrooms. There were also a lot of other languages outside of Norwegian and English, which coincides with the report "Rom for språk" that found that between $72 \%$ and $79 \%$ of teachers taught at least one pupil who spoke a different language than Norwegian (Pran \& Holst, 2015, p. 8). In other words, it is very common for Norwegian classroom to contain at least one other language different from Norwegian. Some of the languages mentioned as prevalent in that report, were also found here such as: English, Arabic, Somali, German, French, and Spanish. Some of the languages found are also common amongst refugees in Norway, such as Tigrinya, English, Arabic, and Somali (Krulatz \& Dahl, 2021, p.123). When taking a look back at how multilingualism is defined in this paper, it becomes clear that this particular classroom is highly multilingual, as it contains many different pupils with different language backgrounds and language systems, which they can use in different communicative settings. Whether this is the norm for all Norwegian classrooms or not is outside the scope of this study.

### 6.5 Possible shortcomings and limitations

Before trying to answer the research questions posed for this study, it is important to go over any possible shortcomings of this study. One is that as previously mentioned, the scope of this study may not be representative for every Norwegian classroom out there. The context of this study is within one school in Bergen, that is placed in a rather urban area. More secluded schools might show a different result than this one, and other schools in Norway undoubtably have different amounts of varied languages. That being said, there are many Norwegian classrooms that have different languages in them, and knowing how this language intertwine and work outside of schools, can prove to be useful when thinking about languages as resources.

Another challenge this study faced is the fact that all the data is collected through parental questionnaires. This means that different parents could interpret the terms used differently and
they might not have a full overview over what languages their child speaks and when. Nevertheless, this information might not have been gathered otherwise as the children themselves are so young, and possibly do not even acknowledge when they are using different languages. This could make them an even more unreliable source, despite them being the users of the languages. Thus, having information directly from their parents, different interpretations aside, is a valuable source for this study.

There were also some difficulties regarding the questionnaire itself and the different questions asked. As they did not ask about proficiency in any of the language, merely frequency, it becomes difficult to know just how good any of the pupils were in any given language. While it is possible to say that the reported natal tongue is the language they are strongest in, there are also cases where this language does not appear in the DLC map, making it difficult to use this perspective reliably. This also shows that there is a possibility that the pupils know other languages that for various reasons did not make it into the maps. This again begs the question whether it is easy to know what languages the pupils actually know if they are not observed using other languages. It is also not clear whether any of the pupils speak different varieties of the languages such as any dialects or sociolects. Such variations are sometimes also classified under the umbrella term "multilingualism" and would preferably be apart of the DLC maps if available. Other information that would be preferable would be how often they view certain media or play videogames. If this information was available, it would be possible to ascertain how often certain languages are heard and used. It would also be easier to determine whether the language used with YouTube etc. or the language used when gaming should be higher in the media domain, in cases where these two bubbles showed different languages. This is, nevertheless, impossible within the confines of this study, and can only be speculated on. Although there have been several shortcomings when using this data, it has also provided an invaluable insight into the different languages used by the participant and has proven useful when it comes to reaching an answer for the various research questions.

### 6.6 First sub-question

Before tackling the main research question, the subordinate questions will be investigated. The first subordinate question reads as follows: How does the domain of family impact the pupils' overall language constellation? In order to answer this question, it is first important to investigate what languages exist within this domain across all the maps, before comparing it to the bigger "Overall DLC". During analysis, the languages that appear in this domain were viewed as very important to the pupils' overall system. This was due to a couple of reasons.

The first reason is that it was seen as a domain where the participants used their languages more actively, rather than in media where they are more likely to use languages in more passive activities like listening and reading. Another reason is that the languages used with family seems to be a good predictor for what languages they prefer using in other domains. This conclusion was reached after seeing that most of the maps preferred to use the same language with family as the one, they use when interacting with media. The only exceptions to this, were maps that instead preferred using English with media, which was explained by how prevalent English media is with younger children in Norway. Therefore, it stands to reason that this domain would heavily influence what languages should appear in the "Overall DLC" and in what order they are placed.

With this in mind, it becomes important to note that most maps contained Norwegian in the family domain. Because of this, most of the maps also had Norwegian in the "Overall DLC". Moreover, Norwegian was often the preferred language in the "Overall DLC", perhaps because it was the language used at home. This would also explain why maps like nr. 17 and nr. 32 preferred a different language from Norwegian overall, since they also spoke a different language with their family. Furthermore, most maps used two or less languages in the family domain, and this also continued into the "Overall DLC". Therefore, it would seem as though it is less common for these pupils to pick up languages in other domains that are only used in those circumstances. In other words, the languages used within the family have a strong hold on the rest of the constellation and impacts it heavily. The only exception of this strong hold is in map nr. 6 and map nr. 7, where it would seem like the influence of English media affected the system a bit more strongly. This then could point an importance for teachers to maintain a good home-school relationship, in order to both get an understanding of what languages the pupil uses at home and how this could be used in a school setting to their advantage.

However, as the media domain also influences what languages appear in the "overall DLC", it would be difficult to get the full picture of the languages in the pupil's system without taking a closer look at this domain.

### 6.7 Second sub-question

The second sub-ordinate question reads as follows: How does the domain of media impact the pupils' overall language constellation? This question seeks to tackle just how important the media domain is for the overall language system the pupils use and their overall DLC. As seen in for example nr. 6 and nr. 7, the language used in media is sometimes the determining factor
for what language ends up on top in the "Overall DLC". However, these were also the only two cases where the language that ended up above the other languages in the "Overall DLC" was only preferred in the media domain and not in the family domain. In all the other maps, the language on top was either only on top in the family domain or in both of the domains. Nevertheless, there were some cases where the languages used in media was not found in the family domain. The maps where this was the case was: nr. 1, nr. 15, nr. 17, nr. 18, nr. 26, nr. 30, and nr. 32. In all of these cases, the language that was found in media but not family, was either Norwegian or English. In other words, the pupils enjoy watching media and playing games in these two languages despite not using the language with any of their family members. Both languages are easily available to children in their age group and in probably one of the reasons why these languages are so popular in the media domain. These are also languages the pupils would be learning at their school, meaning they should already have some proficiency in them despite not speaking the languages at home. This could mean that the biggest factor for the pupils when choosing what media to interact with is the languages they already know and what languages are easily available to them. Therefore, it would seem as though it is the predetermined DLC that determines what languages are found in the media domain, and not the other way around.

That being said, this domain does add and strengthen the language system that is already built up, and changes what language is preferred overall. This is evident in cases like map nr. 6 and nr. 7, where the preferred language in the "Overall DLC" is heavily influenced by the one used with media. However, seeing that the preferred language here is also used with friends, it could be that it is the friends bubble that is influencing the media domain and not the other way around. These two maps were also among the four maps that would look slightly different without the "Friends" bubble, meaning that it influenced the outcome of the maps by a significant amount. In the other 31 maps though, removing the "Friends" bubble does not equate to any changes within the map itself and the bubble is therefore not seen as having an important impact on the all the maps. Moreover, if the media domain was removed, it would lead to bigger changes, such as the in the seven aforementioned maps where most of them would lose one of the languages in the "Overall DLC". This proves that the media domain holds a particular, yet important position in establishing what languages are formed outside of the school setting. There is also a chance that the friends these pupils speak to are mainly from their school, meaning it would not necessarily provide any new insight when investigating what languages, the pupils use outside of this setting. On the other hand, media
is usually used in the pupils' downtime, and is therefore more cut off from the school context. This means that knowing both what languages the pupils use with their family and when interacting with media is vital to determine what languages the pupils use outside of school.

### 6.8 Main research question

This leads us to the research question: What languages and language constellations do elementary school pupils in Bergen bring to the classroom? In order to answer this question, it is important to get an overview of the "Overall DLC" in all the maps. In general, the maps all contain Norwegian to some degree and often prefer this language. This fact, is not seen as surprising, seeing that most people in Norway would be heavily exposed to the language, as well as most households speaking Norwegian at home. The second most frequent language is English, which is also not particularly surprising. This is because of the increasing presence English media has with younger children in Norway. It would also seem like it is common for Norwegian classrooms to contain at least one other language in the linguistic landscape, other than Norwegian. This can also be seen here, where 21 of the 35 DLC maps contained at least two languages. While English was often the second language in these maps, there were also some instances of other languages like for example Uyghur, and Tigrinya. A handful of these languages seem to be common in both Norwegian classrooms as a whole, and refugees in the country. Some of these languages were English, Arabic, and Somali. Other languages that is often encountered at some point during Norwegian education, such as German, French, Spanish, Danish, and Swedish, were also found in the study. This would in other words be a highly multilingual classroom with a lot of different linguistic backgrounds available. While many of the maps followed the same patterns in number of languages and what languages were prioritized where, there were also some that stuck out as visibly different from the others. These maps in particular, show the individual nature of each of the maps, and how every pupil could be sitting with their own intricate system of languages. The maps could also be expanded to further exemplify how different or similar they are to each other, with some information on their regional dialect and sociolect. Nevertheless, it is apparent that every pupil has an unique language background and different linguistic resources they can draw on, which is important to keep in mind when trying to draw on this experience in the classroom. Moreover, seeing as there is an element of individuality here, it becomes important to keep in mind that this information would vary from classroom to classroom, and as such, teachers need to make themselves familiar with the linguistic landscape of their particular class. If this
feat is accomplished, they would gain access to an interesting a valuable resource for further language learning and development.

### 6.9 Implications

This study could have several implications for the practice of teaching language in Norwegian classrooms. For one, it could open teachers' minds to the vast number of resources they have available in their particular classroom. Moreover, it could then increase their curiosity in finding out about these languages, and as a result, shift their viewpoint into looking at these different languages as something precious and valuable to the classroom. Such a shift in viewpoint would challenge the earlier conceptions of multilingual pupil's only being seen as "problematic minority students" (Vikøy \& Haukås, 2023, p. 916) and instead focus on the resources every individual pupil can bring to the classroom. This viewpoint would also expand their view on multilingualism as a whole, and make it so not only minority pupils are put under this term, but also other pupils who have experience with several languages or language variations. Having this knowledge and perspective on multilingualism, would give them more of a background in creating more customized lesson plans that support the needs and abilities the pupils in their classroom have. This would then allow them to "support the development of each person's identity", which is stated in the curriculum as one of the important functions of the school (Kunnskapsdepartementet, 2017). It would also allow them to view these linguistic resources as valuable, which in turn would make them able to celebrate the differences of each individual pupil. By seeing the value each pupil can bring into the classroom, it gives them room to participate in their own learning. This in turn, could provide more motivation for language learning and make the lessons more effective. Not to mention, that having the preconceived notion that every classroom is unique and could harbor many different languages to varying degrees, could support teachers who do not feel prepared to work wit with minority language students. Understanding that most pupils have experience with more than one language, could make the thought of working with these pupils less scary. On the other hand, it could also implicate that teachers need to prepare to work with multilingual pupils even when all the pupils are able to speak Norwegian fluently. This would make learning about multilingualism and linguistic resources infinitely more important for newer teachers, and especially those who teach language.

## 7. Conclusion

Before reaching conclusion, there will be a short summarization of all the findings in this study. Though multilingualism is often used as an umbrella term for people being able to use or interact with more than one language, it became apparent that there are a few different interpretations of the term itself. This led to the definition proposed earlier in this study, which defines multilingualism as a term used to describe "a person or community of people with complex language systems consisting of more than one language, where the languages and language skills within the system are functional in communicative settings". This definition lends itself nicely to the concept of DLC which in and of itself seeks to create visual representations of these linguistic systems and explain how the linguistic resources can be used in different settings. Furthermore, it was explained how all the people in Norway can be seen as multilingual to some extent, based on our two written systems, the various dialects available, and the high proficiency levels in English. Based on a report called "Rom for Språk" it also became clear that the majority of Norwegian classrooms had at least one pupil who spoke a language outside of Norwegian. This then led to this study, which in many ways tries to chart this linguistic landscape within one of the Norwegian classrooms. Seeing that teachers' beliefs and perceptions about multilingualism and multilingual pupils is important in determining what the different practices look like in the classrooms, it became clear that having knowledge regarding what languages and language constellations the pupils bring to the classroom can become an important resource for both lesson planning and teaching overall. Using multilingualism as a resource has also been increasingly focused on in various practices developed across the globe and provides the teacher with many different approaches to language learning. It is also not always easy for a teacher to gain access to the various languages their pupils use outside of school, and therefore, it could be difficult for them to get the full overview needed in order to take advantage of the linguistic resources available to them. Therefore, this study could provide invaluable insights into the languages that certain pupils bring to school.

While a handful of pupils only interact with Norwegian in their daily lives, there are also a good amount that have access to other languages that they use in different settings. Quite a few of the participants, come from families where they speak at least one other language with each other, and there were also many who used at least one other language when interacting with media. While the languages within the family can be difficult to predict, the languages used in media seemed to either be the language the pupil use the most overall or a mix of Norwegian and English. Norwegian and English seemed to also be preferred over other
languages, even in cases where there seemed to be a different home language. Reasons for this could be the over-exposure of Norwegian and the value placed on this language in comparison to other languages in the country. Even the various language curriculums and the transitional model offered to language minorities, seem to heavily imply the importance of knowing Norwegian as opposed to other languages (Vikøy \& Haukås, 2023, p.915-916). Even English has gained a special standing in Norway, to the point where some consider whether it should be described as a second language rather than a foreign one (Krulatz \& Dahl, 2021, p. 114). Therefore, it is not surprising that these two languages are especially common in the different DLC maps. Considering that the various DLC maps are based on parental questionnaires and not collected from the pupils themselves in some way, there could be some discrepancies between the DLC maps and the actual reality for these pupils. Nevertheless, it would seem that most pupils in Norwegian classrooms use both Norwegian and English outside of school. It is also likely that there will be at least one pupil in every classroom that knows and uses a different language, even if this is not the language, they would use in a school setting or with friends. Thus, it is up to the individual teacher to gain an understanding of the linguistic landscape in their classroom through for example a good home-school relationship. By gaining an understanding of what languages are available and to what degree they are used in different settings, teachers will gain the ability to use these resources for teaching. This ability would then open up the doors to using multilingualism as a resource and validating each and every pupil in the classroom to the fullest.

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#### Abstract

"Multilingualism" is often used as an umbrella term for people who can speak and interact with more than one language. This has led to many different interpretations of the term itself and other related terms such as bilingualism, plurilingualism, second language, and foreign language. Amongst these interpretations, came the development of the Dominant Language Constellation method, which approaches multilingualism by visualizing the languages and language variants a person or community of speakers interacts with in different settings, or at different points in their lives. By making use of this method, the present study has sought to map out the languages that Norwegian primary school children use actively when speaking with family members and interacting with media.

The present study used data material collected by MetaLearn. This data was collected through parental questionnaires, where parents were asked about the languages, they themselves speak, as well as the languages their children use in different settings. From this material, 35 participants were chosen, all from the same school. Based on this material, the domains of "Family", and "Media" were developed and defined in individual DLC maps. The languages reported by the parents, were then put into their respective domains. These domains were then compared with each other. In addition to this the maps were also compared to each other.

The main findings show that the majority of pupils interact with at least two languages. While these two languages were often Norwegian and English, there were also other languages found in the different maps. When comparing the maps to each other, it becomes clear to see that the languages used in the "Family" domain, is often preferred in "Media" as well. Overall, Norwegian was found in all of the maps, and is often spoken in the "Family" domain. English was often found in the "Media" domain, and other languages were found sporadically in both or either one. The influence of languages spoken with friends was also explored in the maps, but was found to be a non-significant factor for most of the DLC maps.

Based on these findings, it would seem as though the average Norwegian classroom has a lot of potential for using languages and multilingualism as resources. Because of the availability of media in other languages, and the likelihood of having pupils from multilingual families, there is a possibility for teachers to make use of the language's children bring into the school setting. On the other hand, this would be difficult without the teacher making an effort to fully understand the linguistic landscape of their particular classroom. Nevertheless, it is evident that most Norwegian primary pupils have experience with multiple languages.


## Sammendrag

"Flerspråklighet" er ofte brukt som en samlebetegnelse for folk som kan snakke og samhandle med mer en ett språk. Dette har ført til flere forskjellige forståelser av selve begrepet og andre relaterte begrep som «tospråklighet», «plurilingualism», «andrespråk», og «fremmedspråk». Blant disse forståelsene, kom utviklingen av den Dominante Språk Konstellasjons metoden, som tilnærmer seg flerspråklighet ved å visualisere de forskjellige språkene og språkvariantene en person eller gruppe med mennesker samhandler med i forskjellige settinger, eller til forskjellige tidspunkt i livet deres. Ved å bruke denne metoden, har denne studien forsøkt å kartlegge språkene som norske barneskole-elever bruker aktivt når de snakker med familiemedlemmer og samhandler med media.

Den samtlige studien har brukt data materiale samlet av MetaLearn. Denne dataen var hentet gjennom en spørreundersøkelse rettet mot foreldre, hvor de ble spurt om hvilke språk de selv brukte, i tillegg til språkene barnet deres brukte i ulike situasjoner. Basert på dette materiale, ble domenene «familie» og «media» utviklet og definert i individualiserte DLC kart. Språkene rapportert av foreldrene, ble så puttet inn i deres respektive domener. Disse domenene ble så sammenlignet med hverandre. I tillegg ble også kartene sammenlignet med hverandre.

Hovedfunnene viser at de fleste av elevene samhandler med minst to språk. Disse to språkene var ofte norsk og engelsk, men det også funnet andre språk i de forskjellige kartene. Ved å sammenligne kartene med hverandre, blir det mulig å se at språkene brukt i «familie» domenet, ofte blir foretrukket i «media» også. Alt $i$ alt ble norsk funnet $i$ alle kartene, og var ofte brukt i «familie» domenet. Engelsk ble ofte funnet i «media» domenet, og andre språk ble funnet sporadisk i begge eller bare en av dem. Påvirkningskraften til språkene brukt med venner ble også utforsket i alle karten, men det ble konkludert at denne faktoren ikke var betydelig i de fleste av kartene.

Basert på disse funnene, ser det ut som at det gjennomsnittlige norske klasserommet, har mye potensial for å bruke språk og flerspråklighet som ressurser. Begrunn av tilgjengeligheten av media på andre språk, og sannsynligheten for å ha elever fra flerspråklige familier, så er det en mulig for lærere å utnytte språkene barna tar med inn i skolesituasjonen. På den andre siden, vil dette være vanskelig å realisere uten at læreren giør en innsats for å forstå det språklige landskapet i deres eget klasserom. Likevel er det tydelig at de fleste norske barneskole-elever som har erfaringer med flere språk.

## Appendix 1: Table showcasing initial information regarding the

 languages the pupils know| Map <br> number | Reported Natal Tongue | Other spoken languages | Other language skills in reading/writing | Lived in another country for 6 months? Which? |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Uyghur | A little English | Uyghur, English | X |
| 2 | Norwegian | English | A little English | USA |
| 3 | Norwegian | A little English | A little English | x |
| 4 | Norwegian | x | x | x |
| 5 | Tigrinya | X | x | x |
| 6 | Norwegian | English | x | X |
| 7 | Norwegian | English | Norwegian, English | X |
| 8 | Norwegian | A little Danish | Danish | Denmark |
| 9 | Norwegian | x | x | x |
| 10 | Azerbaijani | English | English, Russian | x |
| 11 | Norwegian | x | x | x |
| 12 | Norwegian | x | x | x |
| 13 | Norwegian | A little English | x | x |
| 14 | Norwegian, French | x | x | X |
| 15 | Norwegian | x | X | x |
| 16 | Serbian | English | English | x |
| 17 | Turkish | Norwegian | A little Turkish | x |
| 18 | Norwegian | x | X | x |
| 19 | Norwegian | x | X | X |
| 20 | Norwegian | X | French | X |
| 21 | Norwegian | English | English | x |
| 22 | Norwegian | x | x | x |
| 23 | Norwegian | A little English | X | X |
| 24 | Norwegian | x | x | x |
| 25 | Norwegian | X | x | X |
| 26 | Norwegian | English | x | x |
| 27 | Norwegian | School-English | X | X |
| 28 | Norwegian | x | X | x |


| 29 | Norwegian | x | x | x |
| :--- | :--- | :--- | :--- | :--- |
| 30 | Norwegian | x | x | x |
| 31 | Norwegian | x | x | x |
| 32 | Serbian | English | Serbian, English | Serbia |
| 33 | Norwegian | School-English | x | x |
| 34 | Norwegian | x | x | x |
| 35 | Somali | English | Arabic, English | United Arab Emirates |

## Appendix 2: DLC Maps

The languages used in the different maps used to be written out fully in a previous rendition, but have since been abbreviated. Their placements in the individual bubble in relation to other languages signals which of the languages are used more frequently, as reported by the parents. Not all the maps contain all the same circles. The ones that are missing one or two circles in relation to others, indicate a lack of information from the relevant questions. This could come from various factors, such as the person being related to the question being unable to answer, or the person being non-existent.

Below is a listing of all the abbreviations in alphabetical order:

Ar - Arabic $\mid$ Az - Azerbaijani $\mid \mathrm{D}$ - Danish $\mid \mathrm{Du}$ - Dutch $\mid \mathrm{E}$ - English $\mid \mathrm{F}$ - French $\mid \mathrm{G}$ - German $\mid$ L- Luxembourgish $\mid \mathrm{N}$ - Norwegian $\mid \mathrm{P}$ - Portuguese $\mid \mathrm{R}$ - Russian $\mid \mathrm{Se}$ - Serbian $\mid$ So - Somali $\mid$ Sw - Swedish | Ti - Tigrinya | Tu - Turkish | U - Uyghur |

Nr. 1
1


## Nr. 2



Nr. 3


## Nr. 4

4


## Nr. 5



Nr. 6
6


Nr. 7

7


Nr. 8


Nr. 9


Nr. 10


Nr. 11
II


Nr. 12

12


Nr. 13

13


Nr. 14
14


Nr. 15
15


Nr. 16
16


Nr. 17

17


Nr. 18

18


Nr. 19

19


Nr. 20

20


Nr. 21

21


Nr. 22

22


Nr. 23

23


Nr. 24

24


Nr. 25

25


Nr. 26


Nr. 27

27


Nr. 28

28


Nr. 29

29


Nr. 30

30


Nr. 31

31


Nr. 32

32


Nr. 33

33


Nr. 34
34


Nr. 35
35


