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Interaction and language use in monolingual and multilingual preschool language environments

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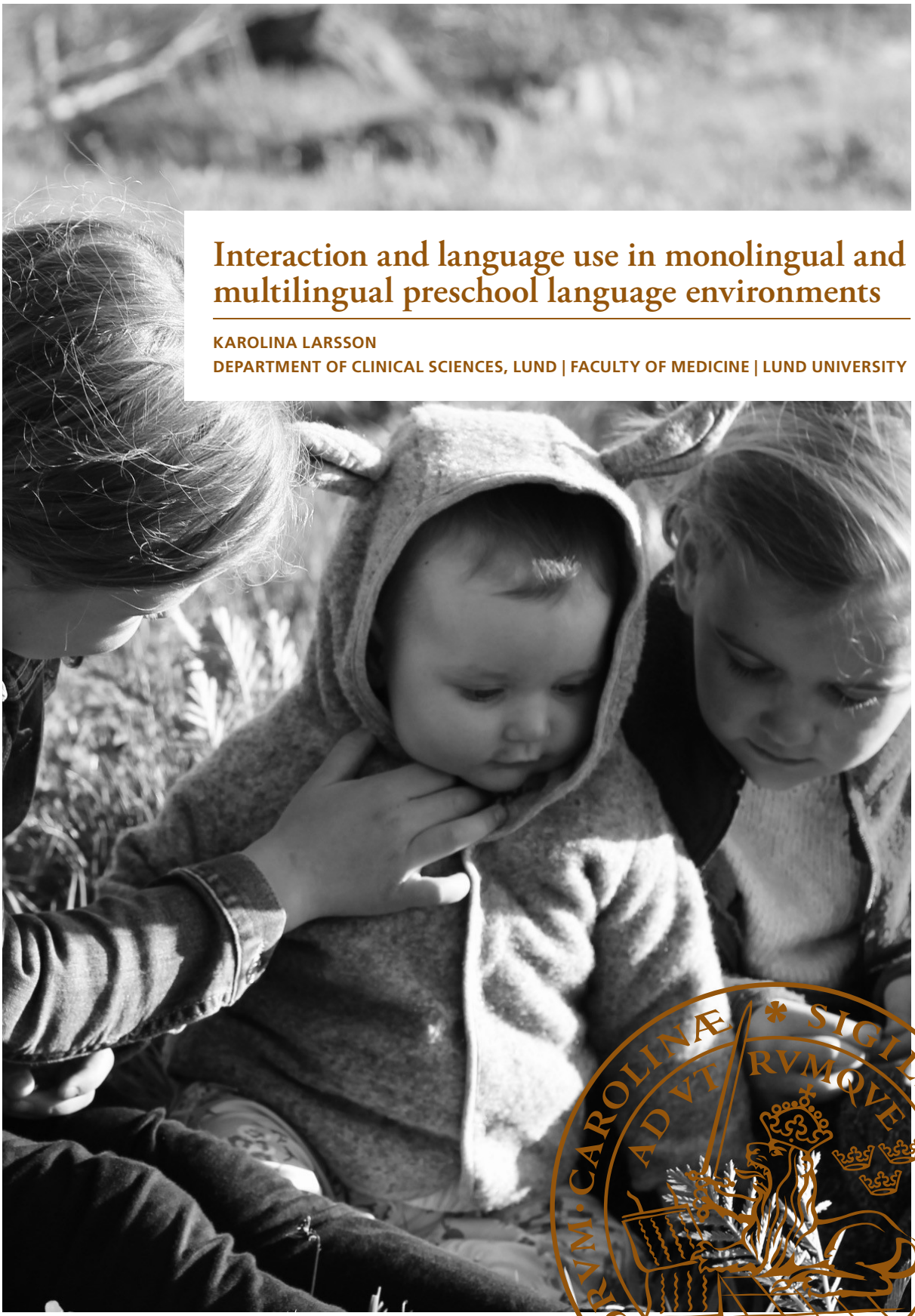

Interaction and language use in monolingual and multilingual preschool language environments

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Karolina Larsson

LUND
UNIVERSITY

DOCTORAL DISSERTATION

Doctoral dissertation for the degree of Doctor of Medical Science at the Faculty of Medicine at Lund University to be publicly defended on 14th of November 2025 at 09.00 in MA4 Hall

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Title and subtitle: Interaction and language use in monolingual and multilingual preschool language environments

Abstract: Many factors influence the language environment in preschool, for example, the language background and competence of the teachers, children's ages, language proficiency levels and language backgrounds, the access to play and learning materials and the composition of preschool groups. There is a lack of knowledge on how various aspects of the interactive language environment in preschool relate to children's language use and language learning. The present thesis includes studies on various aspects of teachers' and children's interactional practices. The aim of the thesis is to highlight variation in preschoolers' and teachers' interaction and language use in monolingual and multilingual preschools in Sweden. The following research questions have guided the analysis: What characterizes children's and teachers' verbal and embodied interaction and language use in preschools with monolingual and multilingual children? How do teachers' and children's interaction and language use contribute to the preschool language environment, and what does this signify for multilingual children's opportunities to acquire the language of education? The study builds on video ethnographic data. Teachers and children from eight preschool units situated in both high SES monolingual areas and low SES multilingual areas participate. Data was collected during nine months, and each group of teachers and children were video recorded during ordinary preschool activities such as play, mealtimes, teaching and storybook-reading. The video recorded data was transcribed and analyzed drawing on Conversation Analysis. As a complement to the video data, the participating children's language production and language comprehension were assessed using The New Reynell Developmental Language Scales (Swedish version) and nonsense words. For paper 3 and 4, the transcriptions were also analyzed linguistically regarding word types, word tokens and decontextualized turns. The findings show that children use code-switching and crossing as interactional resources. Children are multilingual policy agents who create their own social and linguistic norms through multilingual practices, and they sometimes choose an alternative language as lingua franca in preschool (in this case English). Children's play in both areas are characterized by interaction, joy, community, and joint attention, which create rich and stimulating social environments. However, children's use of vocabulary differs between the areas, including both qualitative aspects (e.g. the use of decontextualized turns), and quantitative aspects (e.g. word types used). The vocabulary which children expose each other to during peer play talk is shaped and conditioned by their knowledge of the preschool lingua franca, in this case Swedish. L2 children in the multilingual preschools lack access to play with L1 speakers of the language of education, and their peer play talk is restricted by a joint low proficiency in Swedish. L1 children in monolingual preschools lack access to play with multilingual peer models.

When children are allowed to take initiatives and act on their topics of interest during language teaching sessions, opportunities for concept development, abstract thinking, and cooperation arise. The preschool language teaching practices need to be dynamic and flexible in relation to children's language backgrounds and their use of various language resources. A challenge arises when teachers and children have limited access to a lingua franca during language teaching. However, it is the role of the teacher to use a rich and varied language and to act responsively, and both follow and extend children's contributions. Teacher's use of SSS might contribute to a language conducive context for children with special needs, but there is a risk that teachers' focus on performance of SSS might constrain their responsivity. Teachers' use of SSS therefore needs to be related to fundamental aspects of high-quality language interaction.

The study concludes that children make strategic choices regarding which language to use in different contexts. All children have the right to participate, not only in socially rich and engaging play, but also in language conducive play where they can use and develop the curricular target languages. Teachers need to verbally support and enrich the play of children who are unable to act as sources of rich input to each other. Such support includes the use of a rich and diverse lexicon, advanced grammar and decontextualized language. Training preschool teachers how to improve their responsively oriented interactions with children might be a productive way of promoting the language learning environment of both monolingual and multilingual preschools.

Key words: Preschool, interaction, peer interaction, peer play talk, children's language choices, children's language use, teachers' interaction, teachers' language use, language teaching, teacher responsivity, multilingualism, monolingualism, preschool language environments, children's use of English, children's agency, children's participation, sign-supported speech, SSS, lexical diversity, equality in preschool

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MADE IN SWEDEN

Till Linnéa, Hedda & Sigrid.

A love to follow, a love to keep
A love that rocks me safely to sleep
Your heartbeats
Lingers inside me
Daughters

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Abstract

Many factors influence the language environment in preschool, for example, the language background and competence of the teachers, children's ages, language proficiency levels and language backgrounds, the access to play and learning materials and the composition of preschool groups. There is a lack of knowledge on how various aspects of the interactive language environment in preschool relate to children's language use and language learning. To shed some light on these processes and begin to fill the knowledge gap on how different language environments create various conditions for children's language learning in preschool, the present thesis includes studies on various aspects of teachers' and children's interactional practices.

The aim of the thesis is to highlight variation in preschoolers' and teachers' interaction and language use in monolingual and multilingual preschools in Sweden. The following research questions have guided the analysis: What characterizes children's and teachers' verbal and embodied interaction and language use in preschools with monolingual and multilingual children? How do teachers' and children's interaction and language use contribute to the preschool language environment, and what does this signify for multilingual children's opportunities to acquire the language of education?

The study builds on video ethnographic data. Teachers and children from eight preschool units situated in both monolingual areas with high socioeconomic status and multilingual areas with low socioeconomic status participate. The data collection took place during nine months, and each group of teachers and children were video recorded on several occasions during ordinary preschool activities such as play, mealtimes, teaching and storybook-reading. The video recorded data was transcribed and analyzed drawing on Conversation analysis. As a complement to the video data, the participating children's language production and language comprehension were assessed using The New Reynell Developmental Language Scales (NRDLS, Swedish version) and nonsense words. Furthermore, for paper 3 and 4, the transcriptions were also analyzed linguistically regarding word types, word tokens and decontextualized turns.

The findings show that children use code-switching and crossing as interactional resources. Children are multilingual policy agents who create their own social and linguistic norms through multilingual practices, and they sometimes choose an

alternative language as lingua franca in preschool (in this case English). Children's play in both areas are characterized by interaction, joy, community, and joint attention, which create rich and stimulating social environments. However, children's use of vocabulary differs between the areas, including both qualitative aspects (e.g. the use of technical words and decontextualized turns), and quantitative aspects (e.g. word tokens and word types used). The vocabulary which children expose each other to during peer play talk is shaped and conditioned by their knowledge of the preschool lingua franca, in this case Swedish. L2 children in the multilingual preschools lack access to play with L1 speakers of the language of education, and their peer play talk is restricted by a joint low proficiency in Swedish. L1 children in monolingual preschools lack access to play with multilingual peer models.

The findings also show that when children are allowed to take initiatives and act on their topics of interest during language teaching sessions, opportunities for concept development, abstract thinking, cooperation and compromise arise. The preschool language teaching practices need to be both dynamic and flexible in relation to children's language backgrounds and their use of various language resources. A challenge arises when teachers and children have limited access to a lingua franca during language teaching. However, it is the role of the teacher to use a rich and varied language and to act responsively, and both follow and extend children's contributions. Teacher's use of SSS might contribute to a language conducive context for children with special needs, but there is a risk that teachers' focus on performance of SSS might constrain their ability to act in reciprocal and communicatively responsive ways. Teachers' use of SSS therefore needs to be related to fundamental aspects of high-quality language interaction.

The study concludes that children make strategic choices regarding which language to use in different contexts. All children have the right to participate, not only in socially rich and engaging play, but also in language conducive play where they can use and develop the curricular target languages (Swedish and children's various L1). When children are unable to act as sources of rich input to each other, their teachers need to verbally support and enrich their play. Such support includes knowledge and use of a rich and diverse lexicon, advanced grammar and decontextualized language. Since teacher responsivity is significant, training preschool teachers how to improve their responsively oriented interactions with children might be a productive way of promoting the language learning environment of both monolingual and multilingual preschools.

Abbreviations

ACC	alternative and complementary communication
CA	Conversation Analysis
DLD	developmental language disorder
L1	first language
L2	second language
L2 children	Children learning Swedish as a second language
L2 teacher	Teachers learning Swedish as a second language
Mdn	median
NRDLS	The New Reynell Developmental Language Scales
SEN	special educational needs
SES	socioeconomic status
SLT	speech and language therapist
SSE	sign-supported English
SSL	Swedish sign-language
SSS	sign-supported Swedish

Preface

Before starting my PhD, I worked for 15 years in various positions within the Swedish education system; as a speech and language therapist in child and student health, and later as a developer of language environments and reading-promoting collaborations between preschools, parents and libraries. I also spent a few years working as a department head for modersmålslärare [mother tongue teachers], as well as preschool developers and school developers. The common thread through all my previous assignments was my interest in children's social and linguistic abilities and needs, and the pursuit of all children's equal opportunities to succeed academically. In that regard, rich opportunities for all children to learn language already in preschool is essential.

There are countless interesting studies on different aspects of children's language development, and we know a lot about individual factors that influence it. However, it is more difficult to understand how they interact, mediate and affect each other. That is one of the reasons why I have long wanted to know more about preschool language environments and how they impact children's language development. After five years of research, I have learned a lot, but along the way I have also realized that four studies were simply not enough to give me all the answers I wanted. In my computer lie the embryos of many more studies that will hopefully be carried out in the future. Nevertheless, through my studies, new language phenomena have been brought to attention, and the thesis can thus contribute new knowledge about the complexity of language environments in preschool and their importance for all children's language development. If there's one thing I am sure of, it is that every language environment is completely unique, and that means that my results cannot easily be transferred to other preschools' language environments. So please be critical when relating my results to the language environments you might have in mind. That said, it is my hope that the current thesis will inspire other practitioners in preschool to evaluate, research and develop language teaching and language development approaches in preschool.

To anyone who wants to ask me what it was like to write this thesis - it wasn't complicated. It was just ignoring interruptions, nurturing persistence and feeding ambitions. It was resting in times of failures and forgiving myself for not meeting my own standards. It was eating tons of chocolates when nothing else seemed to work. It was a lot of hard work but also singing and dancing my troubles away, as often as the opportunity arose. It was taking an hour to soak up the first rays of

sunlight in the spring. Perhaps most importantly, it was to constantly remember that this journey was a privilege that few get the opportunity to experience. An experience that I am happy, humbled and deeply grateful of.

/Karolina

Skrea backe i Falkenberg, 11 september 2025

List of papers

Larsson, K., Björk-Willén, P., Haraldsson, K. & Hansson, K. (2023). Children's use of English as lingua franca in Swedish preschools. *Multilingua, 42*(4), pp. 527-557 http://dx.doi.org/10.1515/multi-2022-0062

Larsson, K., Björk-Willén, P., Haraldsson, K. & Hansson, K. (2025). Teachers' use of sign-supported speech in interaction with multilingual children in Swedish preschools. *Linguistics and Education, 87*. pp. 1-16 https://doi.org/10.1016/j.linged.2025.101398

Larsson, K., Björk-Willén, P., Haraldsson, K. & Hansson, K. (2025). Lexical diversity in peer play talk. Accepted for publication in *Theory and Practice of Second Language Acquisition.*

Larsson, K., Björk-Willén, P., Haraldsson, K. & Hansson, K. (2025). Variations in language teaching in monolingual and multilingual preschool groups. Submitted.

Papers at a glance

	Paper I	Paper II	Paper III	Paper IV
Aim	To study how English is used, and explore the meaning-making of children's English language choice.	To study teachers' use of SSS in interaction with L2 children, and L2 children's participation in such interaction.	To examine L1 and L2 children's vocabulary input to each other during free play.	To highlight variations in language teaching and strategies supportive of children's interaction and participation.
Data in corpus	Approximately 2,5 hr. All instances where children use English.	Approximately 7,25 hr. All instances where SSS was used.	Approximately 7 hr. of free play. 4 play events (2 play themes) chosen (20 min).	Approximately 2,5 hr. All pre-planned language teaching activities.
Design and method	Video ethnographic design. Conversation Analysis.	Video ethnographic design. Conversation Analysis.	Multiple case study. Linguistic analysis, interaction analysis, language tests.	Video ethnographic design. Conversation Analysis.
Findings	Children in both areas use English, but to a greater extent in multilingual preschools. English is used in many ways; e.g. for exclusion, community and as a secret language of friendship.	Teachers' focus on SSS can impact their interaction and responsivity, which negatively affects children's participation. SSS is often used regardless of children's communicative needs.	All play events are socially rich, but children's Swedish skills impacts lexical productivity, diversity, and decontextualizatio n within peer play talk. When the L2 children cannot act as sources of rich input for one another, adult support is needed.	Children's participation is supported by playful, responsive teachers and exploration of word meanings, but SSS is less effective. Teachers' Swedish skills affect their language teaching.
Conclusions	Children use code-switching and crossing as interactional resources. English is sometimes used as lingua franca.	SSS can support children with SEN, but teacher's responsivity is sometimes negatively affected by their use of SSS.	Children's peer play talk is shaped by their Swedish proficiency. L2 children often lack peer models of high competence in both their L1 and L2.	Teacher responsivity, flexibility and their proficiency in Swedish impacts language teaching.

Sammanfattning på svenska

Bakgrund

Avhandlingens övergripande tema är språkmiljöer i förskolan. Begreppet språkmiljö är komplext, men kan betraktas som summan av de språkliga praktiker, val och handlingar som finns i ett visst sammanhang. Interaktionen kan även innefatta samspel med den fysiska miljön och påverkas också av organisationen av aktiviteter och grupperingar i tid och rum. Variation i språkmiljöer, bestående av exempelvis skillnader i lärares språkliga bakgrund och kompetens, barns åldrar, språkliga bakgrund och kompetens, tillgången till lekmaterial och läromedel samt gruppernas sammansättning, ger olika förutsättningar för barns språklärande i förskolan.

Andra faktorer som påverkar barns språklärande i förskolan är exempelvis socioekonomiska förutsättningar, där barn som växer upp i socioekonomiskt gynnade hem och bostadsområden ofta omges av ett rikare språk. Barn som växer upp i socioekonomiskt missgynnade hem och bostadsområden riskerar att få höra mindre språk under uppväxtåren, och utsätts oftare för stress, näringsbrist och materiell utsatthet med mera, vilket också kan påverka språkutvecklingen negativt. Att gå på en förskola där barn från olika socioekonomiska bakgrunder möts gynnar barns språkutveckling och skolframgång, men det är vanligare att barn från socioekonomiskt missgynnade hem samlas i vissa förskolor i Sverige. I sådana förskolor är det också vanligare att pedagogerna har låg utbildningsnivå eller är outbildade för uppdraget, samt att de har låg behärskning av svenska. De stora skillnaderna mellan förskolor utgör en grogrund för social stratifiering.

En mycket viktig faktor i både enspråkig och flerspråkig utveckling är hur mycket och vilken typ av språk som barnen hör, samt vilka möjligheter de själva ges att språka och interagera i lustfyllda och meningsfulla sammanhang. Språkutveckling gynnas både av kvantitet och kvalitet – vilket innebär att mängden ord är viktig men också att variationen spelar stor roll. Alla barn behöver få bygga både ett vardagsspråk med vardagliga ord och uttryck, och ett kunskapsspråk med ovanliga och abstrakta ord, resonemang och jämförelser samt grammatisk komplexitet. Flerspråkig utveckling delar i stora drag de mönster som finns i enspråkig utveckling. Ett utmärkande fenomen i den flerspråkiga utvecklingen är dock kodväxling, vilket innebär att en flerspråkig individ växlar mellan sina språk på ett grammatiskt regelbundet sätt.

Interaktion och undervisning i förskolan gynnas av att pedagoger utgår från barns erfarenheter, upplevelser och intressen, och introducerar och använder ett språk som utmanar barnen genom att ligga på en något högre nivå än det barnen redan kan. Ett responsivt förhållningssätt är grundläggande och innebär exempelvis att pedagogerna lyssnar in och bygger på barnens initiativ och bidrag, att de uppmuntrar barnen att kommunicera och att de ställer genuina frågor och följdfrågor i samtalen. Responsivitet hos pedagogerna kan öka barns delaktighet i interaktionen. I styrdokumenten för svensk förskola åläggs alla pedagoger att undervisa och bidra till barns utveckling av både svenska och modersmålen. Hur det ska gå till anges inte och pedagogernas tolkningsutrymme är därmed stort. Väl beforskade metoder så som att arbeta med högläsning av barnböcker på olika sätt är vanligt, men också mindre beforskade metoder så som att använda TAKK [tecken som alternativ och kompletterande kommunikation] i syfte att stödja alla barns språkutveckling. De senaste decenniernas fokus på undervisning i förskolan har också gjort att den viktiga leken hamnat i skymundan.

Syfte och forskningsfrågor

Det saknas kunskap om hur olika aspekter av den interaktiva språkmiljön i förskolan relaterar till barns interaktion, språkanvändning och språklärande. För att belysa dessa processer inkluderar den aktuella avhandlingen fyra delstudier som fokuserar på olika delar av lärares och barns interaktion i vardagliga förskolekontexter.

Avhandlingens syfte är att belysa variation i barns och pedagogers interaktion och språkanvändning i enspråkiga och flerspråkiga förskolor.
Forskningsfrågorna är:

- Vad karaktäriserar barns och pedagogers verbala och kroppsliga interaktion och språkanvändning i förskolor med enspråkiga och flerspråkiga barn.
- Hur bidrar lärares och barns interaktion och språkanvändning till förskolornas språkmiljöer, och vad betyder detta för flerspråkiga barns möjligheter att tillägna sig utbildningsspråket?

Metod

Materialet består av videoinspelningar (totalt 42 h) på fyra förskoleavdelningar i ett socioekonomiskt gynnat område med liten andel flerspråkiga barn, samt fyra förskoleavdelningar i ett socioekonomiskt missgynnat område med stor andel flerspråkiga barn. Inspelningarna fångar olika situationer som temaarbete, fri lek, bokläsning, samling och måltider. Samtliga inspelningar är transkriberade och har analyserats på olika sätt. Främst bygger delarbetena på interaktions- och samtalsanalys (Conversation Analysis), men kvantitativa översiktsanalyser och språktester ingår i några delstudier.

Resultat

I det första delarbetet undersöks barns användning av engelska under fri lek, och vilken funktion det engelska språket fyller för barnen. Resultaten visar att barn i samtliga förskolor influeras av engelskan, men användningen av engelska är mer utbredd i de flerspråkiga förskolorna. Engelska språket fyller en rad funktioner för barnen och används för gemenskapande, makt, exkludering och som ett hemligt språk vänner emellan. En intressant situation uppstår för pedagogerna och i förhållande till läroplanens språkliga mål när barns användande av engelska varken utgör deras modersmål eller undervisningsspråket. Ett spänningsfält uppstår mellan svenskan och engelskan när pedagogerna använder svenska för avbrott, regler och tillsägelser, medan engelska används av barnen i lustfylld, engagerande och motiverande lek.

I det andra delarbetet undersöks pedagogers användning av tecken som stöd, speciellt i interaktion med barn som lär sig svenska som andraspråk, och hur barnen svarar på teckenstödd interaktion. Resultaten visar att pedagogernas användning av tecken kan bidra till en språkfrämjande miljö för barn i behov av särskilt stöd, men det finns en risk att pedagogernas fokus på att utföra tecken samtidigt med talet kan begränsa deras förmåga att agera på ett ömsesidigt, lyhört och responsivt sätt. Pedagogernas användning av tecken är ofta frikopplat från barnens pragmatiska och språkliga behov, och i vissa förskolor verkar användandet av tecken ha blivit ett självändamål.

I det tredje delarbetet analyseras kvantitativa och kvalitativa aspekter av barns ordanvändning under lek i både en- och flerspråkiga förskolor. Resultaten visar att alla inkluderade leksituationer präglas av interaktion, glädje, gemenskap och gemensam uppmärksamhet, vilket skapar rika och stimulerande sociala miljöer. Barnens användning av ordförråd skiljer sig dock mellan områdena, både vad gäller kvalitativa aspekter (exempelvis användningen av fackord och dekontextualiserat språk) och kvantitativa aspekter (t.ex. mängden ord och antalet olika ord). Ett allt igenom rikare språkande noteras mellan barnen i de enspråkiga förskolorna, trots att de barnen är yngre. Det visar att barnens språkande formas och villkoras av deras kunskaper i förskolans lingua franca, i detta fall svenska. Alla deltagande barn som lär sig svenska som andraspråk saknar tillgång till lek och interaktion med förstaspråkstalare av utbildningsspråket.

I det fjärde delarbetet undersöks variation i pedagogers språkundervisning, med syfte att identifiera mera framgångsrika och mindre framgångsrika strategier. Resultaten visar att när barn tillåts ta initiativ och agera kring sina intresseområden under språkundervisningen uppstår möjligheter till begreppsutveckling, abstrakt tänkande och resonerande språk. Undervisningen behöver anpassas till barns språkliga bakgrund och behov, och en utmaning uppstår när pedagoger och barn har begränsad tillgång till gemensamma språkliga resurser. Resultatet indikerar att det är lärarens roll (oavsett språkbakgrund) att vara lyhörd och både följa och utöka barns bidrag, använda ett rikt ordförråd och utmanande språk. För pedagoger är

responsivitet, lekfullhet och gemensamt utforskande användbara strategier i språkundervisningen, och stödjer barnens deltagande i interaktion. Teckenstöd verkar vara en mindre framgångsrik strategi.

Slutsatser

Barn gör strategiska språkval i relation till de grupper och sammanhang de befinner sig i. I de flerspråkiga förskolorna finns grupper av barn som använder engelska som lekspråk, trots att engelska varken talas i hemmet eller av de vuxna på förskolan. Barns användning av sitt/sina modersmål i förskolan är sällsynt. Det svenska ordförråd som barn använder i förskolan formas och villkoras av deras svenska språkkunskaper. Det finns språkmiljöer som beskrivs i denna avhandling där barnen inte kan fungera som källor till rik och varierad språkstimulans sinsemellan. I de fallen behöver pedagogerna delta i lek och interaktion med barnen och berika den språkligt. Det innebär att alla pedagoger behöver använda ett rikt och varierat lexikon, avancerad grammatik och ett resonerande och dekontextualiserat språkande.

Barns lek framstår som en kraftfull språkundervisningsaktivitet som skulle kunna implementeras i större utsträckning i språkundervisningen i flerspråkiga förskolor. Deltagande i barns lek bygger dock på lärarens närvaro under längre tidsperioder, vilket kan kräva ytterligare resurser. Det uppstår goda förutsättningar för begreppsutveckling och dekontextualiserat språkande när barn tillåts ta initiativ och lärare responsivt följer dem i språkundervisningen. Att utbilda och stödja pedagogers responsivitet kan vara ett produktivt sätt att främja språkmiljön i både enspråkiga och flerspråkiga förskolor. TAKK kan vara ett värdefullt didaktiskt verktyg för att undervisa barn i behov av särskilt stöd, men kan störa lärarnas interaktioner med barn som har åtminstone vissa verbala språkfärdigheter. Det handlar därmed inte om att använda TAKK eller ej i förskolan, utan mer om hur det används, varför, med vem och i vilka situationer.

För vem är denna avhandling viktig?

Avhandlingen utgör ett viktigt bidrag till förskolans praktik eftersom alla barn enligt både skollag och läroplan ska beredas möjlighet att utveckla alla sina språk optimalt före skolstart, särskilt det svenska språket som utgör utbildningsspråk i svensk förskola. Resultat och slutsatser från alla inkluderade delarbeten uppmärksammar olika aspekter av språkmiljön i förskolan, och bidrar med viktiga kunskaper till pedagoger som arbetar i förskolan, särskilt de som arbetar i områden rika på flerspråkiga barn. Resultat och slutsatser har också relevans för förskolans ledande och styrande nivå, och för logopeder som arbetar i förskolan.

Background

The research and development project that the current dissertation is part of takes place in what is usually called the first step within the Swedish education system – förskolan [preschool]. The focus of the thesis is on interaction and language use between children and between children and teachers in preschool, and the section below highlights theories and studies that relate to this topic in different ways.

Language environments

Preschools constitute specific language environments (Anatoli, 2025), but it is important to note that the term language environment is not explicit or established by scholarly consensus. One way to look at language environments is through an interactional lens, which entails a view of language environments as the sum of the verbal and embodied interaction, language choices and language practices that exist in a certain context.

Factors that influence the language environment in preschool are, for example, the composition of the group of children, the language background and competence of the teachers, as well as the children's ages, language proficiency levels and language backgrounds. Similarly, van Lier (2010) emphasizes an interdependence between different elements in learning contexts and presents an ecological approach to language learning. Such an approach aims to study the complex interplay between for example the various actions and activities of teachers and children as learners and their relationships and agencies. Furthermore, the interaction between teachers and children is both historically rooted and aiming forward (towards the future), outward (orienting to the world), and inward (related to emotions, stances and identity) in each utterance. The central point of the approach is that all factors in the learning context are interdependent and influence each other. As van Lier (2010) writes: "Pull one string, metaphorically speaking, and all the others will move in response" (van Lier, 2010, p. 4).

There are different conditions in different language environments which implies that children are provided with various opportunities to interact with others and expand their language, knowledge and experiences. Language environments can be of high complexity, which is the case in preschools where few individuals share the same L1 and few speak Swedish (Salameh, 2022). However, in language

environments with high complexity, all available resources are often used to communicate, both verbal language and non-verbal communication. In preschools where most children speak the same L1, reaching intersubjectivity between the participants is usually not dependent on other verbal resources than their shared L1.

The physical environment creates both opportunities and constraints for play and interaction and can fuel language development since conversations tend to revolve around objects and activities in the environment (Björk-Willén, 2022). Norling (2015) highlights the importance of play materials in the physical environment for L2-childrens' language learning opportunities. For example, a family corner with familiar objects such as a stove, cutlery and bowls can support the acquisition of concepts for multilingual children (children who learn and speak more than one language) who are in the early process of learning a new language.

Outdoor environments can be beneficial for children's communication skills and literacy skills and can also to some extent impact children's desire to communicate in a positive way (Richardson et al., 2024). A recent study by Pesch (2021) refers to the physical environments of preschools as semiotic landscapes, which refers to the visual representations within the language environment, for example pictures, photos, symbols and text. Multimodal and multilingual resources are used in combination with such semiotic landscapes (Pesch, 2021) which contribute to a rather wide focus in the study of communication. Here, it is important to note that a language environment that contains a wealth of concrete language material cannot on its own promote children's language development but can be interactively and linguistically explored in a conversation (ibid.).

Anatoli (2025) highlights that studies in monolingual, immersion and bilingual classrooms in various countries show that teachers contribute with different pedagogical strategies, organized in various ways, to approach the educational goals of the curriculum. Hence, teacher strategies, organizations and curricular goals are likely to impact the language practices that contribute to the language environments. In her thesis, Kultti (2014) notes that teachers can organize activities and contexts that strengthen children's language skills through, for example, creative activities, shared experiences, singing, reading aloud and playing together, which is also important for promoting children's mental health (Isaksson et al., 2017).

In sum, the concept of language environment refers to the interaction that arises through the participants' verbal and multimodal actions, which means that it is children and their teachers who in different ways create the language environments through interaction with each other and with the environment.

Different language environments create different conditions

The development of rich language and literacy skills promotes mental health and well-being (Gustafsson et al., 2010; Isaksson et al., 2017; O'Connor et al., 2018), reading development (Herkner et al., 2021) and leads to better chances of employment later in life (Eriksson & Rooth, 2022). Measures to enter working life

and the community are essential to reduce the social inequalities that also affect mental health, and interventions are needed during all phases of life from childhood to old age (Allen et al., 2014).

A vision of equal terms and conditions for all children who participate in preschool education permeates the preschool's policy documents. The curriculum highlights the importance of supporting and stimulating children's development of both spoken and written language, as these abilities are seen as necessary for the child to become part of a democratic society (Nasiopoulou et al., 2023). However, recent reports reveal widespread variations in the quality of preschool literacy environments (SOU, 2020; Swedish School Inspectorate, 2018). There are unequal conditions for language and literacy learning, especially regarding children's opportunities to participate in shared book-reading and print activities (Nasiopoulou et al., 2023).

The Swedish School Act (SFS 2010:800) stipulates that the education is to promote the development and learning of all children, and consideration must be given to children's various needs. There is a strong emphasis on equal education throughout the School act. For example, the task of preschool is to compensate for differences in children's backgrounds and abilities, and preschool education is to be equivalent regardless of where (in Sweden) it is organized. Persson (2017) stresses that equality needs to be understood in relation to the social, economic and cultural conditions where children grow up. This means that equality cannot be accomplished in the same way in all preschools' language environments. For example, the proportion of preschool teachers needs to be larger, the groups of children smaller and the staff density higher in socioeconomically challenged areas (Andersson & Sandberg, 2019; Sandell Ring, 2021). Palla and Vallberg Roth (2018) state that there is a need to improve language teaching for multilingual children, and that increased quality of language teaching can lead to greater equality in preschool and contribute to better opportunities for multilingual children later in life.

The multi-faceted goal of equal terms and the term language environment both consist of complex processes which are only partially addressed in this thesis. To describe and approach some of that complexity, the theoretical background (just like the included studies) aims to focus on describing various features that are significant for children's and teachers' interaction in the multi-layered language environments of preschool.

The theoretical framework

The sociocultural theory

The thesis at hand takes its starting point in the sociocultural theory developed by the Russian psychologist Lev Vygotsky (Vygotsky, 1978). The sociocultural theory is an ideal framework for analysis of classrooms, since one of the major principles in the preschool classroom is the view that children's cognitive development and

learning originates in social contexts. In Vygotsky's view, human action is mediated by tools or signs. Language is a powerful mediating tool that transforms basic mental functions into higher mental functions, for example formations of concepts. Such transformations occur within the zone of proximal development, which in simplicity can be defined as the difference between the child's ability to solve problems independently, and their skills to solve problems under adult guidance or in collaboration with more capable peers (Vygotsky, 1978). More skilled collaborators can provide support to less skilled collaborators in the completion of tasks. Relatedly, Wood et al. (1976) use the metaphor of scaffolding to refer to how experts provide support to learners. Scaffolding consists of e.g. directing the learner's interest in the task, simplifying the task, keeping the learner motivated and in pursuit of the goal, reducing stress and frustration during the task and functioning as a model (ibid).

From the sociocultural point of view, children's intellectual, social, emotional, and linguistic abilities are rooted in their relationships with other people (Vygotsky, 1978) and cultivated through social interaction. In such processes of socialization, children are not passive recipients of language, but rather active agents who contribute to their own socialization process. The nature of these early social experiences is important as the sociocultural approach to language socialization in preschool emphasizes that all children need opportunities to participate in immediate experiences of positive and stimulating interactions. Such interaction is necessary for children's language growth and consists of for example teachers encouraging children to communicate and supporting children to use language to develop reasoning skills (Howes et al., 2008; Pramling Samuelsson, 2025; Sheridan et al., 2014).

Language socialisation

Focusing on sociocultural practices, the theoretical and methodological framework of language socialization explores how knowledge and competence are acquired, reproduced and transformed from the moment a child enters the social environment, through childhood, adolescence and the entire lifespan (Burdelski & Howard, 2020). Children's acquisition of language can be viewed as a social process which is closely linked to the historical and cultural context where it takes place (Ochs & Schieffelin, 2013). When children interact with a more experienced interactional partner, for example a parent, teacher or older sibling, they learn words and grammar, but also discursive practices and functional ways of speaking and acting in that community. In that way, children are socialized through language to the use of language (Schieffelin & Ochs, 1986). However, children are not simply copycats of language, but instead actively contribute to society and its cultures by being innovative and creative in the process of language socialization, which Corsaro (2018) calls interpretive reproduction. When children not only acquire, but also reproduce and transform linguistic practices, the process of language socialization

connects language and culture (Cekaite, 2020b). Children create their own language policies and explore the patterns and limits of the normative orders that adults interact within (Björk-Willén & Cromdal, 2007; Boyd et al., 2017). Such processes are valid in both monolingual and multilingual development, since learning of additional languages includes learning words and grammar, but also the ability to recognize culturally appropriate ways of interaction as well as affective stances and language norms (Cekaite, 2020a).

The contexts where language socialization are studied are for example the home, the preschool classroom or peer interaction. Classrooms are "complex and dynamic spaces where teaching and learning are mediated by specific languages, communicative resources and practices, and culturally informed activities" (Burdelski & Howard, 2020, pp 1). Language socialization is rooted in a tradition of studying how children are socialized into highly valued (and expected) cultural and linguistic practices, and such practices are also emphasized in the preschool curriculum, making language socialization a well-suited framework for studying interaction in preschool. Considering that knowledge is constructed through interaction between people in different cultural contexts, the places and environments where the interaction takes place are also of interest. Different material artefacts are used in interaction, alongside other semiotic resources such as gaze, bodily movements and language (Goodwin, 2018).

Conversation Analysis

Grounded in the ethnomethodological approach originating from sociological work investigating social actions and how social order is accomplished and maintained (Garfinkel, 1967), Conversation Analysis (henceforth CA) is a scientific approach which builds on the work of Harvey Sacks, Emanuel Schegloff, Gail Jefferson, Erving Goffman and Harold Garfinkel in the 1960's (Sidnell, 2010). In CA the object of study is human interaction in different contexts and settings. CA builds on the discovery that ordinary talk is a highly organized and socially ordered phenomenon (Hutchby & Wooffitt, 2008) and examines how this sequential organisation is being manifested for example through turn-taking, or how utterances are organized in adjacency pairs. Turns not only follow each other but are also linked together into definite sequences (ibid.) like questions and answers, or offers and acceptances or rejections (Norrby, 2014; Sidnell, 2010). The aim of CA is to discover and describe how participants in conversation understand and respond to each other (Hutchby & Wooffitt, 2008).

Conversation analysts' long tradition of studying the sequentiality of interaction does not presuppose only one thing happening after another. Rather, interaction is always more or less complex, involving several resources and modalities for communication. Therefore, simultaneity is also highly relevant in the study of interaction (Erickson, 2017). Talk can occur simultaneously with gestures, different directions of gaze, movements, various body positionings and use of artefacts in the

ongoing course of interaction. It is the contextual configuration (orchestration) of these various resources in the ongoing course of interaction that is of interest to the researcher, and the shared meaning-making between participants in interaction is created and established through using such multiple semiotic resources (Goodwin, 2018) in space. This can be referred to as semiotic fields (Goodwin, 2003).

Factors related to children's language development and use

There is a large body of research on children's language development, and various conditions and circumstances influencing it. The previous research on which the thesis is based derives from both interaction studies and more linguistically oriented studies.

Law et al. (2022) describe several broad empirical findings on factors influencing children's language development. The rate at which children learn language varies, and their experiences alone do not account for the different rates of development. Instead, individual differences and disorders exist, and patterns of language development (of various receptive and expressive skills) change over time (Law et al., 2022). Regardless of children's language ability and how many languages the child is learning, the individual variation in language development is not isolated within the child – rather it develops in social contexts which can vary greatly. For example, many studies highlight interactional qualities such as joint attention and responsivity as crucial in conversations that promote children's language growth.

Both joint attention and responsivity are high in contingent speech (which is talk where the adult builds on and responds to the child's communicative attempts), and such speech promotes both receptive and expressive vocabulary outcomes (Zauche et al., 2016). There are many different strands of research on the influence of various aspects of language nutrition. Undoubtedly, both monolingual and multilingual language development is affected by an array of factors, for example children's opportunities to hear and produce language(s), the attitudes of the environment and children's access to peers and play (Björk-Willén, 2019).

Socioeconomic status

Another influential factor is socioeconomic status (SES), which is related to children's language development in various ways (Golinkoff et al., 2019; Hart & Risley, 1995; Hoff, 2006). Already in the fetal stage, low-SES entails an increased risk of prematurity and low birth weight (Perkins et al., 2013) which in turn are risk factors in relation to language development. However, such risk factors can be mediated by rich and diverse verbal interaction during the early years of language development (Zauche et al., 2016).

During childhood and adolescence, there is an increased risk of malnutrition, stress, material deficiencies and a lack of opportunities to receive help with schoolwork from parents (Johnson et al., 2016). A report on the segregation and equality in Swedish preschool (National Agency for Education, 2025b) finds a positive correlation between children's national test results and attending a preschool with a mix of children from different socioeconomic backgrounds. This suggests that children benefit from engaging in mixed groups. However, Swedish children do not encounter equal preschool education when it comes to mixing children from various SES-backgrounds (ibid.). Previous research also shows inequalities regarding structural quality conditions like teacher-child ratios, preschool sizes and the number of teachers with a Swedish background. These inequalities make the Swedish preschool an arena for social stratification (Forsberg et al., 2024), which is important since SES-differences appear in vocabulary (Hart & Risley, 1995; Pan et al., 2005), grammar (Dollaghan et al., 1999), narrative skills (Heath, 1983) and phonological awareness (McDowell et al., 2007). Such oral language skills in turn predict children's later reading success (Muter et al., 2004; Scarborough, 2001) and the benefits are pervasive for children from high SES-homes.

Differences in socialization patterns can differ significantly between cultures and homes, which means that children's communication patterns vary when they enter preschool (Salameh, 2012). Heath (1983) showed in a classic study that white middle-class children were socialized in terms of language and literacy according to patterns that matched well with the interaction patterns used in school, which gave them an advantage at the start of school compared to black middle-class and black working-class children (who instead grew up with a rich storytelling tradition which was however not valued in school).

To hear and use language

Language has been argued to be the currency of education (Cooking & Mestre, 1988) since a rich language is crucial for later academic success (Pace et al., 2019). The preschool years are considered especially important since it is usually the time when children learn the basics of language(s) (Golinkoff & Hirsh-Pasek, 2008). Højen et al. (2019) show in a large-scale Danish study that there is a need to focus on the language development in the language of education already in preschool, to reduce the risk of future inequalities and academic failures. In a study of the Swedish context, Herkner et al. (2021) draw the same conclusion after showing differences in children's language skills which were connected to the residential area they lived in.

The Swedish preschool curriculum emphasizes that children learn both in play and in teaching activities like for example story book-reading and outdoor learning (National Agency for Education, 2025). In all activities in preschool, teachers need to design and implement teaching that fits the needs of children with various levels of language proficiency and different language backgrounds (Puskás & Björk-Willén, 2017). Balancing the curricular goals with children's individual

abilities, and sometimes special educational needs (SEN), presents a didactic challenge for teachers.

The amount of talk children hear matters for their oral language production (Bergelson et al., 2023), from the early stages of language development when children connect objects with their linguistic expressions (Caselli et al., 1995), to later stages when children learn to use abstract words and decontextualized language (Golinkoff et al., 2019). Rowe (2012a) suggests that quantity of input is the most important feature of interaction during children's early vocabulary development, while quality factors like vocabulary diversity and the use of rare words and decontextualized language are significant after the age of two. However, there is an interplay between quantity and quality factors (Zauche et al., 2016). In general, the more words a child hears, the more variations they hear regarding words and grammatical complexity (ibid.)

Language practices in different contexts varies, and a distinction is often made between ordinary colloquial everyday language and academic language. The latter refers to decontextualized language including low-frequency words, while everyday language refers to contextualized language which mostly relies on high-frequency words (Cummins, 1979; 1981). As children grow older, their language development moves from concrete and contextualised interaction, for example labelling and describing objects, to more abstract levels of language use seen in for example comparisons between objects and definitions and explanations of concepts (Blank et al., 1978; van Kleeck et al., 1997). Collectively expressed abstract thinking and decontextualized language go beyond the here-and-now of the local context. Such language is challenging for children but can be supported by teachers who anchor it in the child's previous experiences (Björk-Willén et al., 2018). A language environment that promotes cognitive stimulation, for example through introducing children to new and unfamiliar objects, events and activities, is associated with improved language outcomes (Zauche et al., 2016).

Language production and dialogue

Interaction is about mutual engagement and the verbal or non-verbal contributions from both/all participants. Thus, opportunities to practice language is also significant in children's language development (Hoff, 2013). Halliday (1975) argues that learning language as a child, is also learning what language does, and highlights various functions of language, many of which depend on children's language production. For example, asking questions enables information or help to be obtained while the regulatory functions open the possibility of controlling others. Through participation in different interactive contexts, children discover what a rich and adaptable instrument language is for realizing his or her intentions (Gjems, 2009). Children who are verbally active provide more content for a conversation partner to pick up and elaborate on, while children who are quiet and withdrawn

elicit fewer responses from the conversation partner. In this way, language exposure and language productivity are interconnected.

A dialogue can be described as verbal interaction between two or more participants on a common topic (Linell, 1998). However, it is not only through verbal interaction and the use of words that meaning is created. From an ethnomethodological point of view, social order is accomplished by verbal and embodied social actions (Garfinkel, 1967) and local contexts contribute to shared meaning-making processes between participants (Gjems, 2009). Children's language productivity is not only a driving force in their language development but also plays a role in the creation of knowledge. When children talk about their experiences and share assumptions and views, they get opportunities to take part of the reactions and responses from others, which transforms experience to knowledge (Halliday, 1993). Hence, language learning is a dialogical process which is mutually transformative (Goodwin, 2018).

Children's multilingual development

The terminology within the field of multilingualism varies (Hoff & Rumiche, 2012), e.g. when it comes to the number and order of languages learnt during childhood (minority, majority, first, second, heritage language). As noted earlier, in this thesis the term multilingual children refers to children who learn and speak more than one language, and the terms first language (L1) and second language (L2) are used to mark which languages a child learns at home and at preschool. Nota bene that the term L1 can stand for plural, i.e. a child can learn and speak one, two or more first languages at home. The terms language of education and language of instruction are used to emphasize that although all languages are accepted and highly valued in the preschool policy documents, the Swedish language has a special position as both an end in itself and as a means to achieve other goals in preschool. The language of instruction refers to the language teachers use in teaching and instructing children in preschool, whereas language of education refers to the language used in both teaching and interaction between both teachers and children, and between children in preschool.

Even though human beings across cultures and societies use language in similar ways (Ochs, 1986), multilingual children are a heterogenous group with various languages, life situations and language histories (Hoff, 2013; Hoff & Core, 2013; Kultti, 2014). They experience different patterns of language exposure and language use during different periods of their lives (Montanari et al., 2019) and rely on opportunities for both language exposure and language use to develop their languages (Rydland et al., 2014). However, differences between L1 and L2 development exist, especially regarding language experience since the L2-learner has already learned and used words in their L1 and thus knows "what words do"

(Nelson, 2014, p. 244). Nevertheless, learning vocabulary is essential in the process of learning an L2 and is also significant for language use in any language (Schmitt, 2010).

Typically, multilingual children are exposed to their different languages in different settings and learn for example domestically related vocabulary in their L1, and academically related vocabulary in their L2 (Hoff, 2006). Some studies show lower scores on vocabulary tests for multilingual children than monolingual children, even when controlling for SES (Højen et al., 2019; Tonér et al., 2021), but as multilingual children's vocabularies are distributed over all their languages, their total vocabulary is sometimes larger than monolingual children's vocabularies (Hoff et al., 2012; Pearson et al., 1993). Another difference between learning an L1 and an L2 is that the development of cognition and language does not always go hand in hand in L2 development. This means that even if multilingual children can accomplish abstract levels of language use in their L1, such proficiency might not yet have been achieved in the L2. It is therefore important not to underestimate L2-children's needs of cognitive challenges in combination with interactional support (Gibbons, 2018; see also Mariani, 1997).

Multilingual children's code-switching and participation

A common phenomenon among multilingual individuals is code-switching (Poplack, 1980), which occurs when the juxtaposition of the codes (languages) is grammatical and constrained by regularities (Salameh, 2018). Code-switching already appears among very young multilingual children, sometimes as early as around two and a half years of age (Bedore & Peña, 2008). In the case of children who are not yet proficient in their languages the term language mixing can be used (Meisel 1994). Children's code mixing has sometimes been interpreted as a lack of proficiency or communicative competence (Hughes et al., 2006), but other researchers note that code-switching is an indication of multilingual competence (Paradis et al., 2000; Salameh, 2018; Yow et al. 2018).

There are participant-related and discourse-related features of code-switching (Auer, 1984). This means that the setting, topics and language preferences or statuses for different languages might be determinative of children's code-switching patterns (Montanari et al. 2019). They have the ability to code-switch to support their peers' understanding (Cekaite 2020; Olmedo, 2003) but might on the other hand use code-switching to display social stance or exclude others from play (Cromdal, 2001). However, they often follow the language choice of the preceding interlocutor (Boyd et al., 2017). Code-switching or code-alternation to a language of a group which one is not an accepted member of is described by the term crossing (Rampton 1995). In that way, crossing can enable the establishment of relations across ethnical and cultural boundaries in preschool and in school (Björk-Willén, 2007; Evaldsson, 2002).

Many multilingual children move from peripheral to full participation in the process of learning an L2 (Blum-Kulka & Gorbatt, 2014). Early communicative behaviours like using gaze, body movements, single words (Blum-Kulka & Gorbatt, 2014), phrasal recyclings or formulaic chunks of talk in the L2 (Philp & Duchesne, 2008; Wray, 2002) are useful for the L2-learner but might be harder for teachers to acknowledge and pick up than advanced verbal contributions from more skilled language users. Low verbal participation might be perceived as low engagement in individual children, which might lead to reduced teacher responsivity (Finnman et al., 2021). This means that when L2-children in some stages of their L2 development are not able to display their participation (Åström, 2023) and engagement verbally, their communicative attempts risk being unnoticed. Low teacher responsivity correspondingly increases the risk of low child engagement (ibid.), which implies the urge for high teacher responsivity in multilingual preschool settings.

Multilingualism in Sweden today

Sweden has sometimes been referred to as a monolingual country but the language diversity in Sweden today is rich (Parkvall, 2015). Many Swedish children are exposed to multiple languages from an early age, not least English, which is steadily gaining ground in several social domains (cf. Iceland, Thordardottir, 2014). Multilingualism is not associated with disadvantages in language development and/or academic success, but several risk factors may accumulate in multilingual children (Andersson et al., 2019). In Sweden, multilingual homes have disproportionately low SES, and many multilingual children grow up in segregated areas where most inhabitants have other cultural and language backgrounds than Swedish.

The preschool often constitutes the primary arena for immigrant children's L2 learning (Cekaite, 2020), indicating the importance of rich language environments. Children who speak the language of education as L2 depend on a rich and diverse language being used by both their teachers and their peers in preschool (Aukrust, 2007). Collier & Thomas (2004) highlight that L2- speakers' language learning process benefits from play and interaction with L1-speakers of the language of education, implying the importance of a balance between L1 and L2-speakers of the language of education within the group. However, children who speak Swedish as L2 is in majority in many groups, and such conditions entail didactic challenges for the teachers (Flyman Mattsson, 2017) who both need to support multilingual children's access, entrance and inclusion in peer play (Karrebæk, 2011) and support their L2 development through rich everyday interaction (Puskás & Björk Willén, 2017).

Interaction and language teaching in preschool

Sheridan et al. (2020) explain preschool teaching in the Swedish context as goal-oriented processes under the guidance of preschool teachers. The concept of teaching is emphasized in the two latest revisions of the Swedish preschool curriculum (National Agency for Education, 2018; 2025). Various aspects of children's language development (e.g. vocabulary, literacy and reasoning skills) are also highlighted, pointing towards language teaching as a main educational commitment in preschool education. However, the 'how-to' of language teaching practices is not explicitly stated, and teachers' realization of language teaching is therefore dependent on their interpretation of what teaching means and how it is accomplished (Giæver & Tkachenko, 2020).

Sociocultural perspectives emphasize the situatedness of language use within the socially structured practices of the language learning environment, for example the classroom (Cekaite et al., 2014). Language is a mediating tool for learning, described as a process by which experience becomes knowledge (Halliday, 1993). Thus, teaching can be understood as a joint activity of shared meaning-making (Björk-Willén et al., 2018), which brings forward the concept of intersubjectivity (Rommetveit, 1974). This means a consensus – or a shared understanding – among participants on a shared object or phenomenon (Sidnell & Stivers, 2010), viewed in conversation as the ongoing understanding and sense-making of one another's talk (Hutchby & Wooffitt, 2008).

Teachers' communication

Teachers' communicative behaviours in the classroom play a significant role and create different conditions for children's interaction. For example, teachers can pose open-ended questions or invite children's participation in interaction (Church & Bateman, 2019). By picking up a question from one child in the group, the teacher can transform it (and its potential for new knowledge) from the individual level to the collective level (Björk-Willén et al., 2018). Children whose teachers expose them to more advanced language make further progress in their language development than do children who are provided with less advanced language (Dickinson & Porche, 2011; Grøver Aukrust & Rydland, 2011; Huttenlocher et al., 2002). There is also a bi-directional interdependency between teacher talk and children's talk, namely that when teachers use complex syntax, the chances of children using the same increases, and vice versa (Justice et al., 2013).

When it comes to vocabulary teaching, Björk-Willén et al. (2018) stress that (scientific) concepts cannot be presented to children solely through their definitions but instead need to be collectively created through interaction with everyday resources that the children are familiar with. Such processes require the teacher to be flexible and interact with both the environment, materials and children, which

calls for responsivity and reciprocity. Responsive behaviours are for example providing feedback and encouragement, modelling a diverse vocabulary and striving to maintain topics for successive turns (Lillejord et al., 2017; Munthe et al., 2021; Piasta et al., 2012). Reciprocal strategies exhibit the teachers' attention and listening (e.g. eye contact and smiles) and support children's participation in verbal interaction (Isaksson et al., 2017; Landry et al., 1997).

Children's participation in language teaching

Participation is according to Goodwin and Goodwin (2004) established when participants take one another into account, mutually influence each other and build action together. Such processes imply responsivity and alternation between teacher- and child-initiated learning sequences. Church and Bateman (2019) highlight children's participation as a collaboration endeavour where teachers respond to children's focus of interest and note that there are rich opportunities for concept development, abstract thinking and cooperation in child-initiated learning sequences. The process of balancing spontaneous and child-initiated learning opportunities with planned teaching activities is conceptualized as framed improvisation by Jansen and Tholin (2011) (originally Norwegian innrammet improvisasjon). For example, a story book can serve as a framework, while the spontaneous conversations and play that arise from the book's content enable spontaneous teaching that is improvised by the teacher.

There is a large body of research concluding that book reading contributes to children's language development (Hindman & Wasik, 2012; Riad, 2024; Swanson et al., 2011), and dialogic approaches to book reading is highlighted as particularly important (Grøver et al., 2020). Guided play combines spontaneous child-initiated play elements with language support and guidance from teachers (Cekaite & Simonsson, 2023) and allows children to be active and engaged in their learning process (Weisberg et al., 2013).

Teaching L2 learners

As multilingual children's languages, life situations and language histories vary (Hoff, 2013; Hoff & Core, 2013), they enter preschool education with various language experiences and needs (Salameh, 2012). This heterogeneity constitutes a challenge for teachers who need to provide children with both linguistic challenges and support. Hajer and Meestringa (2010) note that there is a risk that teachers simplify their linguistic expression to facilitate children's language comprehension. However, such simplifications might lead to a downward spiral where children hear too little and/or too poor language to develop the rich language required to achieve academic success (ibid.). Mård-Miettinen et al. (2018) describe the challenge of

both providing contextual support and extending children's L2-proficiency using decontextualized language. In a study by Grøver Aukrust and Rydland (2011), teachers' use of a rich vocabulary, decontextualized talk and explanations in the preschool classroom predicted L2 children's receptive vocabulary and word definition skills in first grade. In particular, the presence of words embedded in explanatory conversations appeared to be of importance for children's L2 learning (ibid.).

Interactional routines can be supportive of L2 children's language acquisition since their recurring nature build a framework for socialization which promotes children's cultural and verbal participation (Kanagy, 1999). However, routinized situations like for example circle-time might entail that teachers lose both children's perspectives and their initiatives, which reduces children's participation in interaction (Skans, 2011). To avoid such losses, it is important that circle-time is organized with a dialogic purpose so that all children get opportunities to interact (Winther-Lindqvist et al., 2012).

Supporting L2 learners; scaffolding, multimodality and manual signs

Scaffolding (Wood et al., 1976) is a central concept in L2-teaching. It is a support that can gradually decrease as the beginner develops their skills and begins to cope with the task on their own. Scaffolding practices in relation to language teaching deals with support for comprehension or production of language. It can consist of support for language comprehension, for example repetitions, reformulations or waiting time. Support for language production can consist of for example suggestions, questions, elicitations or hints (Koyuncu et al., 2024). Cekaite (2007) argues that teacher scaffolding is significant to give L2 children the time needed for both thinking and responding in their L2.

Social interaction is always embodied and multimodal, and consists of both verbal, non-verbal and other multimodal resources that create meaning during interaction (Majlesi et al., 2020). Gestures are a natural way to add meaning, emphasize or reinforce what is being said (Demir-Lira et al., 2018). Majlesi et al. (2020) highlight the use of gestures in L2 interaction and note that when verbal resources are lacking, the use of gestures is sometimes reinforced. For example, people draw on embodied resources like gazing away from the interlocutor to show that a word search or a thinking process is in progress. In pedagogical contexts, gestures can also be used to highlight certain words or to elicit words. Even if gestures might constitute an important communicative resource in some educational contexts, Gullberg (2008) notes that different gesture types seem to have different effects, and the pedagogical implications are not clearly established.

In similarity with gestures, manual signs consist of hand shapes, positions and movements which provide opportunities to view linguistic information visually. The use of manual signs has been conventionalized in educational contexts through TAKK [Tecken som Alternativ och Kompletterande Kommunikation], in which

manual signs from the Swedish sign language [SSL] are used to concretize and amplify certain parts of verbal interaction. TAKK can be defined as keyword signing which emphasizes simultaneous use of manual signs and verbal interaction (Heister-Trygg, 2010), and as a manual-visual-auditive-vocal method which is used to enhance communication for individuals with no or limited speech who need special support for their language development (ibid.). Hence, such an approach implies that the target group has SEN, which is strengthened by the fact that TAKK was primarily used in the compulsory school for pupils with learning disabilities (in Swedish anpassad grundskola).

The use of manual signs can have positive effects on the speech production of individuals with developmental language disorders [DLD] (van Berkel-van Hoof et al., 2019), developmental disabilities (Dunst et al., 2011; Millar et al., 2006) and young children with little or no language behaviour (Dunst et al., 2011). However, in Sweden, the use of sign-supported speech (henceforth SSS) is often believed to support all children's language development (Roos, 2019) and Norling (2015) found that teachers use SSS to increase children's participation in general and multilingual children's participation in particular. Teachers perceive SSS as a didactic tool which can be used to include all children in interaction – regardless of their respective means of communication, and as a strategy to accomplish multilingualism in practice (Norling, 2015; Palla, 2023). Marshall and Hobsbaum (2015) studied the effects of sign-supported English (SSE) on children's vocabulary learning and found no evidence that SSE supported the children's vocabulary learning either at the whole class level or for the subset of children learning English as L2.

Language backgrounds and proficiency levels

A recent study by Anatoli (2024) notes an increasing complexity regarding the language backgrounds of teachers and children in Swedish preschools. Such complexity originates from a growing number of L2 speakers of Swedish in Sweden, which is inevitably reflected in preschool. Studies from the American context suggest that interacting with L1-speakers of English is more beneficial for L2 children's language learning than interacting with L2-speakers of English (Hammer et al., 2009; Hoff, 2014; Place & Hoff, 2011). Such benefit is probably not isolated to particular languages but instead depend on the proficiency levels regardless of language used. A report on the segregation and equality in preschool (National Agency for Education, 2025) shows that children who have attended preschools with more Swedish-born teachers perform better on the national tests in third and sixth grade. Nota bene that it is unclear what such effect comes from, and various explanations are possible, for example differences in the preschool teacher education in various countries, teachers' values and beliefs or their linguistic skills. However, as Forsberg et al. (2024) point out, whether someone has a Swedish or foreign language background is not a good measure of their Swedish language proficiency. Sešek (2007) found that many L2 teachers lacked both higher-level

vocabulary and the skills needed to give children feedback on their verbal contributions. In those cases, teachers' and children's shared L1 is a resource for conversation and meaning-making. However, other studies show that teacher's and children's language backgrounds seldom overlap in multilingual contexts (Tkachenko, 2024).

A report from the Swedish School Inspectorate (2022) highlights that teachers' Swedish skills are central to their ability to teach, and that teachers' skills in children's L1 is also a valuable resource. However, preschool organizers and principals at two-thirds of the inspected preschools stated that some of the employed teachers in their preschools had a lack of proficiency in Swedish. Relatedly, Paulsrud and Schalley (2023) found that instructors who work in preschool teacher education perceive the Swedish language skills of some L2 students as insufficient for their upcoming assignment of teaching preschool children (Paulsrud & Schalley, 2023).

Translanguaging

In recent years, many studies have been carried out within the theory of translanguaging (Garcia & Li Wei, 2014), which on the one hand refers to flexible and dynamic processes where multilingual individuals are allowed to use their entire language repertoires, and on the other hand refers to a pedagogical strategy where children get opportunities to use such full repertoires (Tkachenko, 2024). All languages, and all communication modes, should be equally valid. The Swedish Language Act (SFS 2009:600) states that all individuals shall be given the opportunity to learn, develop and use both Swedish and their L1 in Sweden. The law is reflected in the preschool curriculum which emphasizes not only the Swedish language, but also that children with a language background other than Swedish should be given the opportunity to develop both the Swedish language and their L1 in preschool (National Agency for Education, 2025). The curriculum thus establishes a responsibility for preschool practice to meet and teach all children based on their individual experiences, conditions and needs. Such a responsibility includes taking advantage of children's language experiences and skills. Translanguaging as a theory and method has been developed in the American context which in many ways differs from the Swedish context, both regarding linguistic complexity and multilingual individuals' rights by law.

The use of some translinguistic strategies, like for example using an L1 in discussions or when reading (Nordman & Karlsson, 2020) is limited in preschool groups where no or few individuals share L1, and where children cannot yet read. Preparatory work for the thesis showed that children's use of multilingual, multimodal and embodied resources is encouraged in the everyday practice of the participating preschools. However, many teachers who do not speak children's L1 argue that it is difficult to contribute to children's L1 development. This might point to what Kultti (2022) notes as a potential problem, namely that the use of multiple

language repertoires might be reduced to being the children's concern. From a Vygotskyan perspective, since teachers are usually the more knowledgeable participants in teacher-child interactions, using multilingual repertoires in teaching is a potential resource for both learners and for teachers.

Children's play and peer interaction

In the Vygotskian view, children move forward through play (Vygotsky, 1978). Since children's play includes negotiations on what, where and how to play, peer talk during play is often linguistically rich and challenging (Heritage, 1987; Kyratzis, 2014; Sandvik et al., 2014) and can also explore and draw upon narrative structures (Kyratzis, 2014). Play negotiations require children's use of language in various ways, for example exchanging ideas and expressing views. By continuously telling each other what they do, how the imaginary scene is organized and explaining their transitions between various pretend settings, children can coordinate their play (Björk-Willén, 2021). This means that play conversations provide children with opportunities to develop their language skills (Alvestad, 2010; Änggård, 2009). Peer play which involves fantasy and pretending presupposes that the participants mutually engage in extended and literate discourses, such as narratives, explanations, and definitions (Nelson, 2014).

Inevitably, children's language practices are conditioned by their linguistic and pragmatic development, which in turn is affected by their age, SES and language proficiency. Peer talk can thus provide both affordances and limitations in the perspective of language socialization (Cekaite, 2020b). Blum-Kulka and Gorbatt (2014) note that peer interaction is a double opportunity space, both serving as an arena for creating meaning within childhood culture and as a site for developing social, cognitive and linguistic skills (Zadunaisky Ehrlich & Blum-Kulka 2014). However, in a study of learning ecologies in multilingual preschool interactions, Cekaite and Evaldsson (2017) found that the language learning ecology created in a multilingual peer group was limited – and therefore suggest that there might also be a "negative opportunity space" (p. 471). Bundgaard and Gulløv (2008) point out that for language development to occur in peer interaction, language learners need to interact with peers who are more skilled language users. However, children tend to play with peers whose language skills are equal to their own, which sometimes leads to a lack of linguistic challenge.

Peer talk is often characterized by a more egalitarian participation structure than adult-child conversations and make use of specific language codes and a shared pool of popular-cultural resources (Cekaite et al., 2014). As peers are less able to provide support and scaffold each other's verbal contributions, peer conversation is also often more challenging for children to participate in than adult-child conversations (ibid.).

Peers who speak the language of education as L1 can be a resource for L2 learners in the process of learning the new language. Access to play and interaction with L1 speakers of the language of education is therefore essential for L2 learners (Cekaite & Björk-Willén 2013). However, the presence of proficient L1-speaking children does not automatically lead to beneficial peer interaction. Gaining access to play can be challenging for L2-novices (Cekaite et al., 2014; Cekaite & Evaldsson, 2017) who might have to pass a certain threshold before they gain acceptance from more linguistically skilled peers (Blum-Kulka & Gorbatt, 2014). Peers' expressive language skills have been found to positively impact children's vocabulary development (Henry & Rickman, 2007; Mashburn et al., 2009). In a study by Rydland et al. (2014), rich preschool peer talk impacted the participating children's L2 vocabulary knowledge both at five and ten years of age.

During the preschool years, children develop their agency in relation to rules, norms and practices in their environment, but also in relation to the child's will and desires to belong and to manage the world around them (Emilson, 2008). Agency is a concept that highlights how children, through their own actions and engagement, actively influence their socialization process and development (Sommer, 2005). Ahearn (2001) defines agency as the socioculturally mediated capacity to act. Children's agentive actions are complex and multifaceted and cannot be separated from their interactive actions. Just like children's language choices are expressions of agency (Schwartz et al., 2020), participation in conversation (or not) is a choice. Thus, taking a turn or answering a question presupposes that children actively use their agency, and such agentic expressions of participation can both align with, and go against, the language use in the local contexts where they participate. Children have been found to both reproduce and resist the language norms and practices in the context of preschool (Bergroth & Palviainen 2017), which means that the policies of preschool and children's own language use are not always uniform (Pesch 2021; Puskás & Björk-Willén 2017).

Rationale and aim for the thesis

There are many under-researched areas of the pedagogies, practices and language environments of the modern-day preschool (Dickinson, 2012). For example, the why and how of children's language choices (Pesch, 2022) need to be studied further. Also, there is a lack of knowledge on how various aspects of the interactive language environment in preschool (e.g. teacher's use of multimodal resources, language teaching and children's peer play talk) relate to children's language use and language learning (Kultti, 2023; Muhonen et al., 2022; Rydland et al., 2014).

Last, but not least, the considerable variation in language teaching contributes to unequal conditions for children's language learning (Garvis et al., 2018). To shed some light on these processes and begin to fill the knowledge gap on how different language environments create various conditions for children's language learning in preschool, the present dissertation includes studies on various aspects of teachers' and children's interactional practices. Hence, the aim of the thesis is to highlight variation in preschoolers' and teachers' interaction and language use in monolingual and multilingual preschools in Sweden. The research questions are:

1. What characterizes children's and teachers' verbal and embodied interaction and language use in preschools with monolingual and multilingual children?
2. How do teachers' and children's interaction and language use contribute to the preschool language environment, and what does this signify for multilingual children's opportunities to acquire the language of education?

Method

This thesis uses a mixed methods design with both qualitative and quantitative data and an inductive approach.

Setting and participants

The municipality where this research was carried out has approximately 100 000 inhabitants and is situated in the southern part of Sweden. A widespread residential segregation prevails which is reflected in the municipality's preschools. Some preschools teach only children who grow up in socioeconomically advantaged homes, whereas other preschools teach only children who grow up in socioeconomically disadvantaged homes. Residential segregation is linked to language and cultural background in such a way that children in socioeconomically disadvantaged homes often speak Swedish as an L2.

Already during the initial phases of the current research project, a development project aiming to better understand how language promoting and multilingual working methods could be implemented in preschools with varying proportions of multilingual children was underway. The eight preschools participating in the development project (with a total of 31 preschool units/sections [avdelningar]) were invited to participate in the current research project. Of these, eight preschool units located in four different preschools consented to participation.

Four of the preschool units are situated in an area with low SES which according to Boverket [The Swedish National Board of Housing, Building and Planning] is an area with major socioeconomic challenges (Boverket, 2025). Here, a variety of languages are represented among the inhabitants, the most common of which are Arabic, Albanian, Somali and Slavic languages. Hence, the majority of the inhabitants speak Swedish as L2. In preschools in this area, some children are second generation immigrants, and some newly arrived in Sweden. Over 95% of the children have two parents who speak Swedish as L2, at least half of whom speak non-European languages.

The other four preschool units are situated in an area with high SES which according to Boverket [the Swedish National Board of Housing, Building and Planning] is an area with very good socioeconomic conditions (Boverket, 2025). Here, most inhabitants speak Swedish as L1. In this area, few children are

multilingual, but those who are often speak Swedish and another Nordic or European language at home.

Of the 147 children who were enrolled in the eight participating preschools, a total of 96 children and their caregivers consented to participation. Their consent regarded video recordings and language tests. All parents were informed that they could attend their children's language tests, but no one chose to do so. Seven preschool units were so-called äldrebarnsavdelning or syskonavdelning [older children's-unit or sibling unit] where the children were between 2;5 and 6 years old. One preschool unit was a so-called yngrebarnsavdelning [younger children's unit], engaging children between 1 and 4 years of age. The children participating in the study were three to six years of age. No children were excluded from participating in the study, which means that several children with autism spectrum disorder and DLD (under diagnosis or diagnosed) participated. Typically, the preschool groups included 19-21 children. However, the younger children's unit included only 15 children. Since the participating preschool units largely function as separate organizations, and for the sake of simplicity, the preschool units will simply be called 'preschools' in the following text.

There were 38 preschool personnel working in the participating preschools during the data collection, of which 36 were employed to work with the children in pedagogical assignments. However, one principal and one cook had other main assignments but worked occasionally in the children's groups. All 38 preschool personnel were asked to participate in the video recordings, and 37 of them gave consent. Most participants had permanent positions at the participating preschools, but some had fixed-term employment. The preschool personnel who worked with mainly pedagogical assignments had different educational backgrounds ranging from no higher education (high school or university) to university educated preschool teachers with additional training (corresponding to a minimum of three and a half years at university). Typically, there were three or four preschool personnel working at each preschool/day. Since all preschool personnel working in children's groups are guided by the same curriculum and are involved in both teaching, everyday interaction and care with the children, for simplicity reasons they will all be called 'teachers' in the following text. Detailed information about the characteristics of the participating preschools, teachers and children are provided in table 1.

Table 1 shows that the teacher-child ratio is similar between the areas. However, there are differences regarding both the children's and the teachers' language backgrounds, with greater language diversity in the multilingual area. Despite the diversity of languages represented among both children and teachers in the multilingual area, the number of shared languages between teachers and children are the same in both areas. Also, the teachers' languages and educational backgrounds vary. There are more teachers without formal training working in the multilingual area.

Table 1: Characteristics of the four participating preschools

	Monolingual preschools	Multilingual preschools
Number of different languages spoken by children	5	21
% native speakers of Swedish among the children	≈ 93%	≈ 6 %
Numbers of different languages spoken by teachers	3	7
Shared languages between at least one teacher and one child	3	3
% native speakers of Swedish among the teachers	≈77%	≈55%
Teacher-child ratio	1:5,7-1:6,3	1:6,0-1:6,6
Teachers with permanent positions **Teachers with fixed-term employment**	14 4	13 7
Teachers with university training + additional training (SEN-teachers and principals) **Teachers with university training*** **Teachers with high school training**** **Teachers without formal training** **Student under training** **Other (cook)**	1 8 5 2 1 1	2 7 4 7 - -

* Förskollärare [preschool teacher]

** Barnskötare [childcare worker]

Table 2: Overview of participants and data in study 1-4

	Study 1	Study 2	Study 3	Study 4
Teachers in corpus	2	11	0	15
Teachers in excerpts	1	8	0	5
Children in corpus	35	61	9	78
Children in excerpts	20	34	9	17
The corpus	All instances where children use English. Recordings from 3 monolingual and 4 multilingual preschools.	All instances where SSS is used. Recordings from 3 multilingual preschools.	All instances of children's free play. Recordings from 3 monolingual and 4 multilingual preschools.	All pre-planned language teaching. Recordings from 1 monolingual and 3 multilingual preschools.
Included activities in the corpus	Free play, adult-supervised play, mealtime.	Circle-time, mealtime, story-book reading, play, pre-planned teaching	Free play	Pre-planned language teaching
Included activities in selected excerpts reported in the study's article:	Free play, adult-supervised play, mealtime	Mealtime, storybook-reading, circle-time, adult-guided play	Free construction play, Free family play	Teaching in large and small group constellations, including circle-time and outdoor activities.

Table 2 shows information on each study regarding the number of participating teachers and children, the recordings included in the corpus and which activities it captures. The table also describes what activities are reported on in the selected excerpts that are included in the respective studies.

The organization of the preschool day

All preschools followed somewhat similar routines. The preschools opened around 6.30 am, and children's arrivals occurred between opening and 09.00 am depending on their parents' working situation and schedules. During the early morning hours teachers engaged in storybook reading and children were also allowed to play as they liked. Breakfast was usually served around 8.00 am and was followed by more free play. Normally, a circle-time would occur at around 9.00 am and lasted for 20-50 minutes. Circle-time included conversations about the schedule of the day, which children were absent, the weekday, month, upcoming birthdays or traditions and the weather. Furthermore, singing, thematic work and fruit snacks were common features. More thematic work, teaching and outdoor activities took place around 9.45-11.15 am, and lunch was served around 11.30 am. The younger children took a nap after lunch, which coincided with one or two teachers' breaks. In the afternoon hours, children engaged in arts and crafts and free play, and teachers engaged in small-group activities, games and play or storybook-reading. However, staff meetings were often scheduled during the afternoon. In those cases, one or two teachers left the preschool to participate in meetings around, for example, systematic quality work, collaboration around individual children's care needs, SEN interventions or management and organization of the preschool. Around 3.00 pm, a snack was served. Children to unemployed parents usually left the preschool around 2.00 pm. The parents who had employment usually picked up their children between 4.00 and 5.00 pm.

The research sites

Swedish was the language of instruction in all preschools. Swedish also constituted the expected lingua franca, meaning that children and teachers mainly used Swedish in teaching and interaction. Thus, they were not prohibited from using their L1 or other languages of preference, instead all communication was encouraged regardless of language or modality. When children and teachers interacted, they seldom used their L1 but mostly used Swedish. I noticed one exception at a preschool unit where Arabic was occasionally used between one teacher and two children (both speaking Arabic as their L1).

In all preschools, SSS were used by some or all teachers. In addition, pictures, posters and visual materials were used in all preschools, as well as children's books. Similar toys and learning materials were used in all preschools, for example play

food, puzzles, games, creative materials (papers, pencils, paints, scissors, glue, fabrics, natural materials) and building materials such as Magna Tiles and blocks. All preschools had three or four rooms in addition to cloakrooms and bathrooms. Some of the preschools had a small kitchen in one of the larger rooms. However, those kitchens were not used for cooking since larger kitchens delivered all meals.

All preschools had enclosed outdoor environments with a mix of natural and constructed materials for the children to play with. These yards were typically used both for children's recreation and free play, and as a learning environment where teachers implemented both planned and spontaneous (language) teaching and thematic work.

Procedure and data collection

The present study is based on video ethnographic fieldwork focusing on children and their teachers during ordinary activities in preschool, such as teaching, thematic work, craft work, mealtimes, play and reading. Such activities were naturally occurring, i.e. they would have taken place even if I as a researcher was not there. They were by no means orchestrated by anyone, and they represented the children's ordinary business (Mondada, 2012). I spent time in all participating preschools to inform parents and distribute consent forms before data collection. By spending time in all preschools, I became familiar with the names and working methods of the teachers, as well as the children's names and routines. During these visits both the children and their teachers had a chance to get used to my presence.

I visited each preschool repeatedly during a nine-month period on a varying number of days depending on 1. the number of participating children at each preschool and 2. the participating children's preschool schedule. In preschools where children had many preschool hours, a lot of data could be collected in one day. In preschools where children spent less hours in preschool each day, I would make several shorter visits to collect data. Also, in preschools where there were few children whose parents had consented to participation in the study, the data collection would focus on these children in different situations and activities. In preschools where many children participated, more time was needed to record all children in an array of different situations. Fieldnotes were taken on all occasions. During the preschool visits, several informal conversations with teachers, children and their caregivers occurred, but these were documented only if they were considered as important in relation to the aim of the study. Because new children (who had not consented to participate in the research) would start in the preschools after the summer holidays, the data collection was interrupted at the end of the school year.

Two different language tests were conducted with all participating children. The first test was The New Reynell Developmental Language Scales (henceforth NRDLS; Edwards et al. (2017), Swedish version with norms from children with

Swedish as their L1) which assesses children's language comprehension and language production in Swedish. A less language-specific nonword repetition test (Roos & Rubin, 2018) was also used. The language tests were administered in a quiet room at the preschool during regular preschool hours, and each test session was audio-recorded to enable transcription (Rowe, 2012b). If children had difficulties staying focused and completing all tasks, the test was interrupted.

Collection tools

A disconnected iPad (set on flight mode) was used during the video recordings and back-up copies were stored on an external portable hard drive.
The NRDLS comes with a complete set of props and test forms. The nonword repetition test (Roos & Rubin, 2018) consists of a test form containing 18 nonsense words of 1-3 syllables. Like Roos and Rubin (2018), I created a test material with pictures of monsters which were linked to each nonword. The nonwords represented the names of the monsters and the pictures were taken from the website Mycutegraphics (Mycutegraphics, 2020). The monsters were printed on cards with the nonword and its phonetic writing on the backside. All cards were numbered and laminated. The nonword repetition tests were audio recorded with the same iPad that was used for video recordings and were stored on the same external hard drive.

Recordings

In the present study, video recorded observations are used to enable the detailed study of interaction in naturally occurring situations within ordinary preschool practices. Video ethnographic data is commonly used by interaction analysts since it offers rich opportunities to study participants' perspectives and sociocultural processes as well as communicative practices (Cekaite et al., 2014). The recordings took place during the Covid-19 pandemic. Therefore, the data collection procedure had to be slightly modified from visiting several preschools a week, to instead visiting one preschool a week. Such precaution aimed to lower the risk of carrying infection between the research sites.

Typically, I began recording at the preschools between seven and nine am and stopped between one and four pm depending on the participating children's preschool hours. I used the handheld iPad to record a variety of activities (rather than specific individuals). There were 53 children in six of the participating preschools who were either below the age of three (and thus excluded from the study) or had not given their consent to participate in the research. In these preschools, I was consequently guided by the goal of avoiding recording these children. Since many activities occurred simultaneously, I had to make choices about where to position myself, and what activities to record. These choices were made in relation to interaction and language use. Some children would be quiet,

either alone or together with peers, while others were engaged in lively and intense interaction. Since the aim of the thesis is to highlight variation in both interaction and language use of teachers and children, in such cases, the latter were prioritized. Also, while data collection was ongoing, certain activities such as meals occurred frequently. In preschools where teachers and children had permanent placements during meals, I aimed to collect mealtime-data from different teachers and children. Similarly, during repeated transitions from indoors to outdoors, I tried to follow different participants on different occasions.

Since preschool children move around a lot, I had to follow children around. During all recordings, including the ones on the move, I tried not to disturb or interrupt the ongoing interaction. On some occasions, a few children showed interest in the iPad, but such interactions were brief. The preschools' schedule was never adapted to the ongoing data collection in any way. Instead, I followed the planned activities of the day. All recordings therefore contain activities that the children would have been able to take part in even if I had not been there.

Analytical procedure

The analytical procedure began with viewing all recordings several times, which made it possible for me to experience them repeatedly as "another next first time" (Garfinkel, 2002, p. 98) and become familiar with the data. During this initial phase, all recordings of such poor sound quality that further analysis was prevented were sorted out. Through repeated viewing, I got to know the data with a focus on teachers' and children's interaction – meaning both non-verbal and verbal communication. I named all recordings by their content (e.g. 'Centipedes and ladybugs', 'The car track') and transcribed them orthographically. The latter was an analytical step which enabled an increased focus on various language production features in both teachers' and children's verbal interaction (Rowe, 2012b), and the process also made the data searchable based on, for example, words and expressions.

In the next step, different phenomena were identified and collected (Sidnell, 2010), and selected episodes were transcribed in detail drawing on Atkinson and Heritage's (1984) transcription conventions. Due to the broad research aim, there were more collections than possible to include in the studies for the dissertation. Therefore, I engaged in discussions with my supervisors about which collections to include to best fulfil the overall aim and research questions of the thesis.

Regarding transcriptions, I came up with different solutions to increase readability and guide the reader towards the focus of each study. In study 1, code-switched utterances were highlighted in italics in lines showing original utterances. Furthermore, they were bolded in the translation lines. In study 2 and 4, a third line was added to show the use of manual signs in simultaneity with speech, and pictures

showing how the manual signs are performed were included in the last line of each excerpt. In both study 2 and 4, an instruction for reading the excerpts were provided.

The mixed analysis of studies 3 and 4

The analytical procedure in study 3 and 4 combined analysis of interaction with analysis of linguistic data.

Analysis of study 3

In study 3, lexical diversity measured as the number of word types and lexical productivity measured as the total number of word tokens produced (Schmitt, 2010) as well as the number of decontextualized turns were calculated for each transcript of the four play events that were included in the study. Types and tokens were calculated with Antconc (Anthony, 2023; see also Schmitt, 2010). In the next step, I combined the transcripts from the events within the same play theme in both areas. This meant that there were one transcript representing construction play in both areas, and one transcript representing family play in both areas. These combined transcripts represented 100% of the words used in each play theme (within the study). From these combined transcripts, I calculated word tokens, word types and the number of decontextualized turns. This analytical step gave measures of the language use (and exposure) within each play-theme, which in turn enabled an analysis of tokens/types/decontextualized turns in each play event related to the same measure within each play theme (both areas). There are some problems with type-token based methods, for example that type-token ratios are not indicative of the quality of words used (Schmitt, 2010). Hence, in addition to these quantitative analyses, the same type of interaction analysis that was made in the first and second study was conducted. Also, the vocabulary used in each play event was studied in terms of how the nouns, verbs and adjectives used were related to the play theme, see table 3a and 3b. These word classes were chosen because nouns label concrete and nonrelational concepts, verbs label the events that a sentence describes, and children also need relational words like adjectives and function words to be able to combine vocabulary into sentences and narratives (Harris et al., 2011).

Table 3a shows which words were used by both monolingual and multilingual children (column 2), as well as all area-specific nouns, verbs, and adjectives used in each area (column 3 and 4). The monolingual children produce more nouns, verbs and adjectives related to the ongoing construction play (for example road, car park, grappling claw, build, collapse, drive and high) than the multilingual children.

Table 3a: Nouns, verbs and adjectives used during construction play.

	Words used in both monolingual and multilingual area	Words used in the monolingual area only	Words used in the multilingual area only
Nouns	Tunnel [tunnel]	Elevator [hiss], Garage [garage], Man [gubben], Road [väg/vägar], Roof [tak], Car park [parkering], Crane [kran], Car wash [tvättmaskin], Hole [hål], Grappling claw [gripklo], Car [bilen/bilar], Direction [hållet], Star [stjärna]	Plants [växter], Big brother [storebror], Stone [sten], Scissors [sax], Bag [påse]
Verbs	Will [ska], Take [ta], Am/are/is [är], Build [bygga], Can [kan], Know [vet], Do [gör], Want [vill], Look [kolla]	Build [bygga/bygger/bygg/ byggde], Stay [stanna], Collapse [rasa], Was [var], Look [titta], Get [får], Refuel [tanka], Turn [vänder], Comes [kommer], Like [gillar], Must [måste], Have [ha], Drive [köra]	Fall [ramla], Feel [känner], Is [finns], Wait [vänta], Said [sa], Had [hade], Clap [klappa], Win [vann], Have [har], Make [gjort]
Adjectives	Big [stor]	Same [samma], High [högt], Good [bra], Different [annat], Fun [kul], New [ny]	Fast [snabbt], Careful [försiktig], Funny [roligt], Broken [sönder]

Table 3b shows which words were used by both monolingual and multilingual children (column 2), as well as all area-specific nouns, verbs, and adjectives used in each area (column 3 and 4). Just like construction play, the monolingual children produce more nouns and verbs related to the ongoing family play (for example baby, bowl, bottle, pack and drive) than the multilingual children. Regarding adjectives, their relation to the ongoing theme is not transparent in any area, and equal numbers of adjectives are produced in both areas.

Table 3b: Nouns, verbs and adjectives used during family play.

	Words used in both monolingual and multilingual area	Words used in the monolingual area only	Words used in the multilingual area only
Nouns		Baby [bebis], Week [veckan], Bag [påsen], Bowl [bunke], Police [polisen], Place [plats], Bottle [flaska/flaskan]	Turn [tur], Tiger [tigern]
Verbs	Must [måste], Am/are/is [är], Want [vill], Can [kan], Will [ska], Be [vara], Took [tog], Walk [gå]	Pack [packa], Drive [köra/kör], Sit [sitta/sitter/sitt], Will [ska], Get [får], Take [tar], Pull [dra], Hold [håller/håll], Become [blir], Look [kolla], Come [kom], Watch [vakta], See [se], Try [prova]	Becamed [Blidde], Take [ta], Say [sa], Would [skulle], Make [göra], Help [hjälpa], Look [titta]
Adjectives		Funny [roligt], Good [bra], Big [stor]	Angry [arg], Hard [hårt], Closed [stängt]

Analysis of study 4

Traditionally, conversation analysts choose to report excerpts which can be related to the aim and research questions of each study. In study 4, a slightly modified approach was used. I made an initial sorting of all language teaching sessions by calculating lexical diversity, lexical richness and the number of decontextualized turns (using the same procedure that was used in study 3). Hence, the sessions could be revealed as rich and nuanced in terms of vocabulary and decontextualized language, or as the opposite, which related well to the *language use* part of the current thesis' aim. Table 4 shows how this procedure offered the opportunity to show that some teaching situations were likely to be more language stimulating than others in terms of lexical richness, lexical diversity, and context-reduced language use.

Table 4: Lexical richness, lexical diversity and number of decontextualized turns per minute for each teaching session

	Area	Tokens/minute	Types/minute	Decontextualized turns/minute
Centipedes and ladybugs	Multilingual	123,34 (↑)	25,35 (↑)	1,18 (↑)
It smells like Christmas	Monolingual	120,48 (↑)	24,57 (↑)	2,06 (↑)
Planting	Monolingual	118,50 (↑)	23,40 (↓)	1,89 (↑)
Prepositions	Multilingual	99,40 (↓)	27,35 (↑)	0,96 (↓)
Artists	Monollingual	87,74 (↓)	26,71 (↑)	1,58 (↑)
Egg-spriment	Monolingual	145,53 (↑)	20,74 (↓)	0,87 (↓)
The insect hotel	Multilingual	117,29 (↓)	16,52 (↓)	0,98 (↓)
The car track	Multilingual	69,83 (↓)	16,60 (↓)	0,28 (↓)

Table 4 shows the number of tokens, types and decontextualized turns per minute for each language teaching session. The upward arrows show the four highest numbers in each column, and the downward arrows show the four lowest numbers in each column.

The three measures (tokens, types and decontextualized turns) were equally valid and not graded in relation to each other. This means that sessions which were only high (or low) in one or two parameters were not selected for further analysis. For example, the numbers in the session named *Planting* are high on both tokens/minute and decontextualized turns/minute but show a lower production of types/minute. Hence, only the two sessions which were high on all three measures (*Centipedes and ladybugs* and *It smells like Christmas*) and the two sessions which were low on all three measures (*The insect hotel* and *The car track*) were selected for the same type of interaction analysis that was made in the first and second studies was conducted.

Analysis of language tests

All assessments with NRDLS were scored in accordance with the Swedish manual. The children's responses in the nonword repetition task were transcribed phonematically and analysed for accuracy (correct vs. incorrect). Table 5 shows the test results of the children in the monolingual and the multilingual area.

Table 5: Percentile range and percentile medians on NRDLS, and range of raw scores for nonword repetition.

	Monolingual area (N=34)	**Multilingual area (N=43)**
Percentile range for NRDLS language comprehension	1->98 (5 children do not reach the lower threshold for estimation of percentiles (<1) and were placed in percentile 1)	1-84 (27 children do not reach the lower threshold for estimation of percentiles (<1) and were placed in percentile 1)
Mdn (percentile) NRDLS language comprehension	45	<1
Percentile range for NRDLS language production	1-96 (4 children does not reach the lower threshold for estimation of percentiles (<1) and were placed in percentile 1)	1-97 (27 children do not reach the lower threshold for estimation of percentiles (<1) and were placed in percentile 1)
Mdn (percentile) NRDLS language production	84	<1
Range of raw scores for nonword repetition	0-18	0-18

Table 5 shows the range of percentiles on the NRDLS for children in the monolingual and the multilingual area. The ranges are similar in both areas. However, the proportion of children who do not reach the lower threshold for estimation of percentiles are higher in the multilingual area. Also, the medians on both NRDLS language comprehension and language production differ between the areas, with many children in the multilingual area having only basic skills in Swedish. The nonword repetition test, which assesses children's phonological processing abilities, does not show any considerable differences between the monolingual and the multilingual children. This means that the area differences seen in the NRDLS results do not indicate a higher incidence of language disorders in the multilingual area.

Methodological considerations

The data

The studies in this thesis have mainly qualitative approaches, which in some cases are supplemented with quantitative data. Qualitative research methods make it possible to systematically investigate interactions and processes that cannot be separated from their everyday and natural contexts (Thörn et al., 2001). CA, with its focus on interaction and participants' perspectives (Hellermann & Jakonen, 2017), is well suited to the study of multimodal language use and interaction in preschool and is a highly systematic way of approaching conversation (Sidnell & Stivers, 2010). It has made it possible to both identify and describe the various conversation phenomena described in the thesis. However, qualitative and quantitative approaches complement each other (Mesel, 2013) and the various questions asked should guide the researcher's choice of study design (Thörn et al., 2001). As the qualitative descriptions in the thesis answer questions beginning with how, what characterizes or in what way – such descriptions are complemented with quantitative measures answering questions beginning with how often or how many. Together, the questions/methods highlight many aspects and convey a broader picture of the language environments of the preschools.

A purely quantitative part of the data is the results of the language tests which give a measure of children's language development and language skills. However, the NRDLS only give a measure of the children's proficiency in Swedish. Assessments of all children's languages would have given a much clearer picture of their language development, but such assessments were unfortunately not feasible.

Video recording challenges

Mondada (2012) notes that video ethnographic research methods enable the researcher to observe participants' activities and interaction, accomplished in ordinary social contexts and naturally occurring interactions. However, such methods also entail a risk that the participants observe and interact with the camera and/or the researcher. Thus, the researcher must always consider the possible effects of the camera on the ongoing action in focus of the research inquiry (ibid.). Children's interactions with the camera were usually brief, and although the

participating teachers had not been instructed beforehand to intervene when the children interacted with the camera, they often distracted or engaged children in other ongoing activities when this happened. As a result, children's interactions about the device were always brief.

The recordings from indoor activities are of higher sound quality than outdoor activities due to noisy winds and traffic. The quality of the recordings also tended to be somewhat dependent on the number of children participating in the research. In preschools where few children (and/or parents) had consented to participate, all recordings where non-participants entered a room or an activity that was being recorded were interrupted and deleted immediately, resulting in less data from these preschools. Even so, the total amount of data collected was sufficient to fulfil the aim of the thesis.

Although the overall aim of the study was rather broad, and the approach was inductive, it is possible that some unexpected and interesting phenomena which stood out early during data collection (for example children's use of English (study 1) and teachers' use of SSS (study 2)) might have impacted my choices of what to record next. However, it is important to note that I was always striving for variation in the data material.

Limitations

Regarding the participants, only children over the age of three were included in the study. This can be seen as a limitation considering that the younger children are equally important contributors to the language environments in preschool as the older children. However, only two of the participating preschools had children who were excluded due to young age, which made invitations to all children possible in the other six preschools.

In the initial stages of the thesis work, an outline for the timeframe of the data collection and how long it would last at each individual preschool was required. For reasons explained above (see section Procedure and data collection), such an outline consisted of the (approximately) nine months that remained of the academic year after the ethical permits were in place. In practice, the collection time at each individual preschool was reduced, mainly due to illness, holidays and circumstances arising from Covid-19. Even so, the collected data represents different activities and different children from all preschools. Some activities were repeated at different collection times, which means that the data collected enables the identification of patterns. However, if the individuals' language use and language development were to be in focus, the study would have needed a more longitudinal structure with, for example repeated language tests.

Ethical considerations

The research in this thesis has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki). Before the start of the study, the research plan was submitted to and approved by the Swedish ethical review authority (original application 2020-00226 and supplementary application 2021-01615).

Even with the formal permit in place, we particularly considered some important ethical issues. The first consideration is that young children, who are not capable of making informed decisions by themselves, are involved. Instead, children depend on their caregivers to make such decisions. All caregivers were given both oral and written information about the project, and time to reflect upon the matter (and to ask questions about the project) before giving their written consent. Since approximately half of the caregivers of the children participating in the study speak Swedish as L2, I aimed to use a comprehensible language in the written information and found it important to translate the information into English. Furthermore, teachers in the multilingual preschools were asked if they thought any other translations would be valuable to reach all caregivers (non-speakers of both Swedish and English), and the teachers specifically pointed out Romani and Arabic families as in need of additional translations. Therefore, the information was translated to Romani and Arabic (by the Romani and Arabic language teachers working in the municipality). When distributing the information to all caregivers, they were able to choose which language or languages they preferred - Swedish, English, Arabic or Romani. In addition, all caregivers were offered interpreter and complementary oral information about the research project.

Another consideration is that young children might not want to participate, even if their caregivers have consented, and they might not understand why they are recorded. Therefore, on all occasions of data collection in the preschools, I asked the children if they accepted me visiting the preschool and recording with my iPad. The children were also informed that they could end participation at any time. This is in line with the United Nations Convention on the Rights of the Child which establishes children's right to express their views in matters affecting them (The United Nations, 1989). On rare occasions, specific children wondered why I visited and why the preschool activities were recorded. At such instances, I tried to give concrete and comprehensible answers. For example, a common answer was that “I want to learn more about what happens in a preschool.”; “I record because it is hard to remember everything I see. I can look at the recordings and learn about what

happens in a preschool." It can be seen as adult-centred and as diluting the agency of children and adolescents when adults are placed as mediators of their informed consent (Skelton, 2008) and as challenging children's ability to participate of their own free will without influence from their guardians (Beazley et al., 2009). Therefore, caregivers and children gave consent at different times, and without each other's presence. In addition, the children were informed that they could say no on each recording occasion. To sum up the research process so far, I used a dual process of gathering informed consent from caregivers and also asking for assent from the children (Barbero, 2025).

Children are vulnerable to exploitation (MacNaughton et al., 2020), which needs to be considered in all preschool research. Although the participating children have already left preschool when this thesis is published, the results of their participation might contribute to more equal opportunities for children to get a good preschool language education, no matter their language backgrounds or which neighbourhood they live in. The risk of harm to the participating children in this thesis is low, but participation in both video recordings and language tests could possibly trigger anxiety or stress. For that reason, I was attentive to any signs of negative emotions among the children and stopped recording on such occasions.

To minimize the risk of negative emotions during language tests, all children were invited to participate and decided for themselves if they wanted to participate. All caregivers were also informed that they were welcome to attend their children's language tests. Another measure taken to minimize the risk of stress was that recordings were made before the language tests, which means that I had been in the preschool setting for several days and were no longer a stranger to the children when they were asked to participate in the language tests.

A final measure taken to protect the participating children from exploitation and harm is that I was committed to being responsive and respectful to the wishes and needs of all children, and that all researchers involved in analysing the data always valued the participants' integrities, autonomy and dignity higher than the research project.

There are also other ethical issues related to the current research project. Before any data collection, the study was approved by the headmaster of each participating preschool. However, due to the dependence relationship between teachers and headmasters, the latter were not involved in the recruitment of teachers. Just like the caregivers, all teachers were given both oral and written information about the project, had time to reflect upon the matter, and ask me questions about the project before giving their written consent. They were told that they could end participation at any time. Since the teachers work in teams of three to four teachers, the teams were allowed to discuss participation, but the written consent forms were filled out individually to avoid influence from colleagues.

The preschools are the teachers' workplace, and their working conditions need to be protected during the phase of data collection. Therefore, like the approach towards the participating children, I committed to a responsive and respectful

approach towards the participating teachers. Whenever a sensitive situation arose, such as a disagreement or a conflict between teachers, the camera was turned off and I left the room.

Although most of the world's children grow up in multilingual environments, children's multilingualism has often been seen as problematic (Cromdal & Stoewer, 2022). It is important to remember that any division of children based on general group affiliations, such as the division between monolingual and multilingual children in this thesis, can contribute to creating expectations of different kinds and stereotype a multifaceted and complex reality (Bebout & Arthur, 1997). The children in the multilingual preschools in this thesis grow up under different conditions than the children in the monolingual preschools do, in areas with low SES and often with parents with low levels of education. Such conditions have been found to negatively affect children's language development (Hoff, 2013). On the one hand, since the group's participation in the Swedish preschool (in both teaching and interaction) is under-researched, it needs to be highlighted and studied. On the other hand, such studies risk reinforcing the image of the group as vulnerable, and of multilingualism as problematic. In this case, however, I believe that the benefits of the research outweigh the potential risk of describing children based on their language background and enrolment in either monolingual or multilingual preschools.

All names of children, teachers and preschools are pseudonyms (Korkiamäki & Kaukko, 2023), and other information that could lead to identification of the participants is not shared. Video recordings and back-up copies were stored on an external portable hard drive. All test forms and external hard drives were locked in a fireproof file cabinet which was kept in a locked room. The data will be saved for ten years after the project is finished, to enable future review.

Findings

The section below repeats the aims and then briefly presents the results of the four studies which are included in this thesis. The section ends with a summary of the results of all four studies.

Study I: Children's use of English as lingua franca in Swedish preschools

The aim of the paper is to study how English is used in everyday conversation in preschool groups with varying proportions of multilingual children. More specifically, the aim is to analyze and explore the meaning-making of children's English language choice.

The results show that code-switching and crossing can be used as interactional resources in children's organisation of the hierarchies and social orders of the preschool group, including both children and teachers. Already at an early age, children are multilingual policy agents who create their own social and linguistic norms through multilingual practices. Furthermore, children are able to choose an alternative language as lingua franca in preschool, in this case, English. By doing so, knowledge is acquired in a global language, which also provides additional social and pragmatic resources for interaction and play. On the other hand, this might lead to less time and space in preschool for the language goals imposed in the preschool curriculum: development of Swedish and of the children's L1.

Study II: Teachers' use of sign-supported speech in interaction with multilingual children in Swedish preschools

The aim of the paper is to study how preschool teachers use SSS in interaction with multilingual children, and children's way of participating in such interaction. The research questions are: How does teachers' use of SSS impact their responsivity? How do multilingual children participate in sign-supported teacher interaction?

The results show that teacher's use of SSS might contribute to a language conducive context for children with special needs, but there is a risk that teachers' focus on performing SSS might constrain their ability to act in reciprocal and communicatively responsive ways. Teacher's use of SSS is often disconnected from children's pragmatic and linguistic needs, and in some preschools, the use of SSS has become an end in itself. Children's language learning is not only an interactive process, but also contextual. What supports some children's language learning in certain situations, does not necessarily support other children's language development in other situations.

Study III: Lexical diversity in peer play talk – a multiple case study in monolingual and multilingual Swedish preschools

The aim of this paper is to examine children's vocabulary input to each other during play in monolingual and multilingual preschool contexts. The research question is what children's input to each other consists of in terms of lexical productivity, lexical diversity and decontextualized talk.

The results show that all included play events in both areas were characterized by interaction, community, joint attention and joy, which created rich and stimulating social environments. However, children's use of vocabulary differed between the areas, including both qualitative aspects (e.g. the use of technical words and decontextualized turns), and quantitative aspects (e.g. word tokens and word types used). The vocabulary which children used and exposed each other to during peer play talk was shaped and conditioned by their knowledge of the lingua franca of the preschool, in this case Swedish. All children who learned Swedish as L2 lacked access to play with L1 speakers of the language of education. It seemed that their peer play talk was restricted by a joint low proficiency in Swedish, and that they were unable to act as sources of rich input for one another during peer play talk.

Study IV: Variations in language teaching in monolingual and multilingual preschool groups

The aim of this study is to highlight variation in the quality of language teaching in the participating preschools and identify both successful and less successful language teaching strategies. The research question is: what do quality differences in teachers' language teaching consist of?

The results show that when children are allowed to take initiatives and act on their topics of interest during language teaching sessions, opportunities for concept development, abstract thinking, cooperation and compromise arise. Furthermore, preschool language teaching practices need to be both dynamic and flexible in relation to children's language backgrounds and their use of various linguistic resources. A challenge arises when teachers and children have limited access to a lingua franca during language teaching. In sum, the results show that it is the role of the teacher (regardless of their language background) to be responsive, and both follow and extend children's contributions like e.g. initiatives, questions and comments. In addition, playfulness and joint exploration are useful language teaching strategies which support children's participation in interaction, but SSS seems to be less effective.

Summary of the results

The participating children show motivation and joy in play and interaction in all preschools. Their communication often works well in play, but verbal language is sometimes at a basic level. The data reveals that the children in the monolingual preschools are able to act as sources of rich language input to each other, which is a challenge for the children in the multilingual preschools where few children share the same L1 and many children are novice speakers of Swedish. The children's language choices point to a preference for speaking Swedish before their L1. However, in some multilingual groups children choose to speak English before Swedish. In sum, children find their own paths in language socialization and position themselves in the social organization of the preschool group. They show agentic behaviours and multilingual agency, for example by resisting their teachers' use of SSS, even when they are prompted to respond with manual signs.

All participating teachers use SSS to some extent, to support all children's interaction, and multilingual children's development in Swedish in particular. Teachers' use of the language of education varies both in language teaching and in ordinary interaction. It cannot be ruled out that simultaneous use of SSS affects verbal language by keeping vocabulary and grammatical complexity at a basic level. Such linguistic dimensions of language teaching can also be a challenge for teachers who are in the process of learning Swedish. It is possible that the use of literary resources boosts teachers' language use so that lexical diversity, grammatical complexity and the use of decontextualized talk increase. Regardless of the type of activity in which teacher-child interaction occurs, teachers' responsivity and ability to pick up and build on children's contributions and interests seem crucial for building participation, intersubjectivity and high motivation in children.

Discussion

The contribution of this thesis concerns how children's and teachers' interaction in monolingual and multilingual preschool contexts are both affected by, and contribute to, the complexity of the preschools' language environment. The aims and findings of each included paper were summarized in the previous sections. Below, they are discussed in relation to each other, to the thesis' overarching aim, and to the preschool practice in terms of pedagogical implications. Some thoughts about future directions for research within this dissertation's field of inquiry are also shared.

The aim of the thesis is to highlight variation in preschoolers' and teachers' interaction and language use in monolingual and multilingual preschools in Sweden. The following two research questions have guided the analysis:

1. What characterizes children's and teachers' verbal and embodied interaction and language use in preschools with monolingual and multilingual children?
2. How do teachers' and children's interaction and language use contribute to the preschool language environment, and what does this signify for multilingual children's opportunities to acquire the language of education?

Children's agency, responsivity and language use

Children's and teachers' verbal and embodied interaction in the participating preschools is characterized by both variation and similitude. The children show individual differences in for example, engagement and participation in language teaching. The results in studies 1-2 both show that children are responsive towards each other's verbal contributions and linguistic needs (cf. Cekaite, 2020b), and that they can support each other's interaction and language learning in both Swedish and English. A prominent feature of children's interaction in all participating preschools is expressions of agency (Ahearn, 2001; see also Bergroth & Palviainen, 2017). All children are active agents in their language socialization process, expressed in study 1 as their active choice to use English loan words and expressions (monolingual preschools) and to speak English in different group constellations and play situations (multilingual preschools). Children's demonstrations of knowledge of

English are also found in studies 3 and 4 where songs and some English words are used (multilingual preschools). Also, children's choice of not using their L1, even when it is a shared resource, stands out as an expression of agentic language choice (Schwartz et al., 2020). This is in line with earlier research showing that children shape their own socialization process and development (Boyd et al., 2017; Sommer, 2005) and develop their agency in relation to both norms and their desires to belong and manage their environment (Emilson, 2008). Relatedly, in study 2 the results show that children choose verbal language over SSS, if they can (Romski & Sevcik, 2005). They are responsive towards their teachers and listen to, acknowledge, and interact in line with their teachers' interests, with the exception of some children resisting their teachers' prompts to use manual signs. This is in line with Paugh (2012) who showed that children can resist language norms and instructions.

Study 3 shows that there are variations regarding lexical richness and diversity in children's free play in different preschools, which seems to be more dependent on children's access to shared linguistic resources than on their ages. This relates to the study by Dominguez and Trawick-Smith (2018) who found that L2 children performed less peer play talk, and needed more support from the teachers, than their monolingual peers. In study 3, there are also variations in how children can decontextualize utterances, for example to express fantasy scenarios and ideas about the orientation of the play (Nelson, 2014). This confirms earlier research showing that peer (play) talk can provide both affordances and limitations in the perspective of language socialization (Cekaite, 2020b; Cekaite & Björk-Willén, 2013; Cekaite & Evaldsson, 2017; Henry & Rickman, 2007; Kyratzis, 2014; Mashburn et al., 2009; Rydland et al., 2014). In the effort to avoid a "negative opportunity space" (Cekaite & Evaldsson, 2017, p.471), and strive for a "double opportunity space" (Zadunaisky Ehrlich & Blum-Kulka, 2014), it is reasonable to ask who might be the more advanced peer speaker (Bundgaard & Gullov, 2008) in preschools where few children share L1 and all children are novices in Swedish. However, it is important to note that throughout all four studies, children's play and peer interaction is socially rich and characterized by joy and engagement regardless of what language resources they share. When children with differing L1 (who are novices in Swedish) interact and play together, they use embodied resources and joint action as a complement to verbal interaction, or as Goodwin (2018) puts it – shared meaning-making is established through the use of various semiotic resources.

Teachers' responsivity and language use

Teachers' interactions are characterized by variation, both in terms of their ability to act as responsive communication partners and their didactic choices in interaction and language teaching. Finnman et al. (2021) found that children's participation positively affects teacher responsivity, and reversed, teacher responsivity positively

affects children's behaviour and engagement in preschool. Hence, teacher responsivity might work as promotion of children's participation. In studies 2 and 4, children's engagement and involvement in language teaching and interaction with their teachers is sometimes challenged in the multilingual preschools. This is obvious when shared linguistic resources are few (cf. Blum-Kulka & Gorbatt, 2014), but also when teachers' use of SSS sometimes hinders their responsivity towards children's contributions (cf. Marshall & Hobsbaum, 2015). Such challenges thus affect both the linguistic and the pedagogical dimensions within the preschool language environment.

The results in both studies 2 and 4 show that teacher responsivity seems to be supported by flexibility in terms of what to talk and learn about, and how to do it. (cf. framed improvisation by Jansen & Tholin, 2011). Since preschool teaching in the Swedish context can be explained as goal-oriented processes under the guidance of preschool teachers (Björk-Willén et al., 2018; Sheridan et al., 2020), this implies a balancing act between the teacher agenda and the children's responses. For teachers to not take over, and to give room for children's interests and contributions, it seems that both a teaching framework and spontaneous improvisations is important (Jansen & Tholin, 2011). In contrast, responsive practices are sometimes hindered by a predetermined agenda that neither allows children's initiatives nor gives room for or builds on their interests. This is seen in for example some of the circle-time sessions in study 2 (cf. Skans, 2011; Winther-Lindqvist et al., 2012). In both study 2 and 4, responsivity seems to be more easily maintained in smaller group constellations. This relates to the results of Pramling Samuelsson et al. (2015) who describe how preschool teachers find it harder to engage in interaction and be attentive to all individuals in preschool groups with many children.

The teaching sessions vary both regarding linguistic parameters like lexical richness, diversity and the use of decontextualized language, and regarding observations made in the analysis of the interaction, for example the shared meaning-making between teachers and children. Shared languages can serve as a highway towards intersubjectivity, but there are other roads to travel when such shared resources are few. Collaboration, joint action, and contextualisation by using props and picture books are some examples of how to scaffold children's understanding and use of the session's linguistic content. Also when it comes to meaning-making in language teaching, the teacher's responsiveness – expressed as their ability to listen, capture and anchor their teaching in children's understanding and interactional contributions – seems particularly important (Kultti, 2022; Lillejord et al., 2017; Munthe et al., 2021; Piasta et al., 2012). Mård-Miettinen et al. (2018) describe that it can be hard to both extend children's L2-proficiency (e.g. using new words and unfamiliar grammar) and provide pedagogical and contextual support. They argue that teachers need to make room for children's thinking and understanding of verbal interaction before they show pictures, point or use gestures or manual signs. Relatedly, the results in study 2 and 4 show that taking in children's responses is an important foundation in language teaching.

The data in table 4 reveals that there are often lower numbers of tokens, types and decontextualized turns per minute in the language teaching sessions in the multilingual preschools. These findings might reflect a didactical challenge for teachers who teach L2 novices. In the early phases of L2 development, children use gazes, body movements, single words (Blum-Kulka & Gorbatt, 2014) and phrasal recyclings (Philp & Duchesne, 2008; Wray, 2002), which might be harder to pick up and build upon for teachers. Also, it is common that adults adapt their language to a level they perceive as matching the children's language skills. This means that the lower numbers of tokens, types and decontextualized turns might be an expression of responsivity and adaptation among the teachers, considering that many L2 children in the sessions have basic or novice skills in Swedish. Nevertheless, Sanja's achievement of both introducing a rich and (for the children) unfamiliar vocabulary *and* building intersubjectivity (Rommetveit, 1974) and shared meaning-making in language teaching (Björk-Willén et al., 2018; Gjems, 2009) demonstrates that such a task is feasible.

Specifically, study 2 and 4 highlight the importance of responsive use of SSS, which is implemented in line with children's linguistic needs. The results show that responsive strategies support children's engagement and participation (Finnman et al., 2021). Goodwin and Goodwin (2004) note that participation is established when participants take one another into account, mutually influence each other and build action together, and such processes are naturally facilitated when there are shared languages at hand. Similarly, there can be long ways to intersubjectivity when participants do not share the same language, which is seen in Parvin's session in study 4.

Language teaching

Teaching activities should accommodate opportunities for children to reflect on their previous experiences and share their perspectives to establish and maintain intersubjectivity (Björk-Willén et al., 2018; Sheridan et al., 2020). This means that both the teacher and the children are equally important participants through responsive interaction and shared meaning-making actions. However, it is important to note that the teacher is responsible for the teaching and introduces the children to new knowledge and skills, for example concepts or letters and numbers (Björk-Willén et al., 2018). This is seen in for example Sanja's session on insects and arthropods in study 4. Her ways of transforming the targeted language to accessible experiences for the children (seen for example when she encourages the children to line up like a centipede) requires imagination, creativity and a playful approach to teaching. Language teaching thus appears as a complex task that requires both goal orientation, responsiveness and flexibility, and playful and collaborative activities that engage all children.

Already Vygotsky (1978) found that playfulness benefits children's learning by promoting positive interactions around meaningful activities, and recent studies give prominence to play as a powerful language teaching strategy and show that teachers should teach in a playful and learning-oriented way and let children's interests guide the focus of the teaching (Björk-Willén et al., 2018; Sheridan & Williams, 2018; Sheridan et al., 2020). The data behind this thesis contains some examples of teachers' use of playfulness in language teaching, but examples of teachers' prolonged engagement in children's play are rare. The multilingual children's limited use of Swedish during peer play talk (study 1 and 3) and their challenged participation in language teaching (study 2 and 4) can be put in relation to Cekaite and Evaldsson's (2017) findings that some multilingual children spend too little time in rich language teaching activities to learn Swedish before they enter school. Languages do not compete with each other in terms of cognitive resources in multilingual individuals, but since many children have limited time in preschool, consideration is needed about how that time is used. It is likely that the participating multilingual children could be supported in their L2-development from their teachers' linguistic engagement in their play. Such play-responsive language teaching might be one way to compensate for inequalities that arise when children are unable to act as sources of rich input for each other (Kultti, 2022). In addition, play-responsive language teaching might also be a way to enhance multilingual children's engagement in language teaching.

Children and teachers as contributors to the preschool language environment

The results of this thesis show that there are different opportunities and challenges in the language environments in the participating preschools. Teachers' and children's language practices and language choices differ as teachers strive for multimodal practices by using SSS when children orient towards verbal interaction and to learn English as an additional language. The differing code-switching patterns in the participating preschools might be affected by the participants and their language preferences, or by the setting, the topics or statuses of different languages within the group (Auer, 1984; Montanari et al., 2019). The use of all languages is dependent on meetings with other speakers of the same language. Therefore, the status of both the Swedish language and children's L1 in the multilingual preschools might become challenged when shared languages are lacking or few. Opportunities to learn each language can be decreased when one language takes up a lot of time (Thordardottir, 2024), and it is also possible that there are not enough speakers (critical mass) (Thomas & Roberts, 2011) of each L1 and of Swedish in the multilingual preschools. In that context, children discover that some of them know at least some English. Lave and Wenger (1998) suggest that

children's formation of, and participation in, language communities is central for their (multilingual) language development. The results of study 1 confirm this, by revealing that the function of the peer group as a resource for children's linguistic input differs in the monolingual and multilingual language environments. There is less access to multilingual peer models and fewer opportunities to develop multilingual competence in peer interaction in the monolingual preschools. However, many children's high proficiency in Swedish in the monolingual preschools provides rich opportunities to use and learn the Swedish language within the peer group interaction. That is not always the case in the multilingual preschools (see table 5 which reflects many L2 children's novice skills in Swedish), which instead provide rich access to multilingual peer models.

The opportunities to learn and use Swedish is not only affected by the peer group. Study 4 shows that teachers' Swedish language teaching is affected by their Swedish language proficiency, and both study 2 and 4 reveal that teachers' various didactical choices play an important role for children's opportunities to participate and interact. For example, some teachers' interactions are rich in verbal strategies like naming, posing open-ended questions (Church & Bateman, 2019) and modelling of comparisons and reasoning (Blank et al., 1978). Other teachers' interactions are rich in non-verbal strategies, for example the use of SSS (Heister-Trygg, 2010; Roos, 2019). An array of verbal strategies has been found in all participating preschools, but the use of SSS is more concentrated in the multilingual preschools. In this context, the teachers' didactical choices during interaction fit children's linguistic needs to a varying extent. The children in the multilingual area get fewer opportunities to hear decontextualized language during language teaching than children in the monolingual area do (see table 4), which in combination with the teachers' use of SSS might suggest that teachers in the multilingual preschools simplify their language use to facilitate children's comprehension (Hajer & Meestringa, 2010; cf. Marshall & Hobsbaum, 2015). Contextual support like SSS is not always preceded by a linguistic challenge that call for it (Mård-Miettinen et al., 2015) and does not always serve as a scaffolding function (Wood et al., 1976). There is a large body of research showing the importance of both quantity (Bergelson et al., 2023; Caselli et al., 1995; Golinkoff et al., 2019) and quality (Aukrust, 2007; Rowe, 2012) of children's opportunities to hear and speak language(s) (Zauche et al., 2016), for later academic success (Pace et al., 2019) regardless of where children grow up (Herkner et al., 2021; Højen et al., 2019). Consequently, teachers need to use sufficiently rich, diverse, and complex language in interaction and teaching (Dickinson & Porche, 2011; Gibbons, 2018; Hajer & Meestringa, 2010; Justice et al, 2013), as well as in reading (Grøver et al., 2020; Hindman & Wasik, 2012; Riad, 2024; Swanson et al., 2011; van Kleeck et al., 1997) and play (Cekaite & Simonsson, 2023; Karrebæk, 2011; Weisberg et al, 2013) to allow children to be linguistically challenged in the everyday activities in preschool. Flyman Mattsson (2017) notes that it can be didactically challenging for teachers to teach groups with many L2 children, and Björk-Willén (2015) argues that the use of SSS with

multilingual children is a consequence of assessment practices where L2 children are viewed as in need of SEN. SSS should be used in interaction with children who need it for their communication (Dunst et al., 2011; Heister-Trygg, 2004; Millar et al., 2006; Palla, 2023; van Berkel et al., 2019), but not as a didactic tool for multilingual children. Children whose teachers expose them to more advanced language make further progress in their language development than do children who are provided with less advanced language (Dickinson & Porche, 2011; Grøver Aukrust & Rydland, 2011; Huttenlocher et al., 2002). Therefore, the findings of study 2 and 4 suggest that teachers' scaffolding practices should be more directly related to children's language needs.

The multilingual children have an advantage when it comes to multilingual teacher models, of which there are more in the multilingual preschools. Similarly, there are more Swedish language models among teachers in the monolingual preschools. However, access to multilingual models does not automatically mean access to multilingual language input. The data behind this thesis reveals that the multilingual teacher's use of languages other than Swedish is very rare. The fact that a potential multilingual resource resides in the multilingual preschools does not mean that such a resource is available to the multilingual children.

All children's rights to a rich language in preschool

All languages spoken in preschool should be equally valid, which is also the case with all children's various language trajectories. Such equ(al)ity does not change the fact that there is a relationship between Swedish language skills and academic success in the Swedish context. In this thesis, differences between both children's and teachers' interaction, language use and language skills in the different preschools are revealed, and those differences contribute to higher or lower complexity in the preschool language environments. Nota bene that language diversity per se does not constitute a problem. However, given that exposure is key in language development, a problem arises when children's varied exposure to Swedish in the different language environments of the participating preschools creates unequal conditions for them to learn the language of education. This relates to the conclusion of a study by Erica Hoff (2013) on children's early language trajectories:

"By the pragmatic criterion of interpreting a difference as a deficit if it has negative consequences for children's probability of future success, these differences are deficits." (Hoff, 2013, p 10-11).

Over the past half decade, there has been an increased focus on children's development in Swedish in preschool, especially for multilingual children. Through amendments to the Education Act in 2022, all Swedish municipalities are obliged to reach out to caregivers and "recruit" children who are not yet enrolled in preschool. Through the same amendments (National Agency for Education, 2024), it became mandatory for municipalities to offer preschool to children from the age

of three, if the child or the guardians have lived in Sweden for a short time. In 2025, an investigation is carried out regarding how a *mandatory language-preschool* can be introduced for children who are not sufficiently exposed to Swedish in their home environment and who, as a result, show significant "deficiencies" in their language development in Swedish (Regeringen, 2024:113, p 3). A lot of emphasis is thus put on children and their families, and enrolment in preschool education per se. This thesis highlights the importance of including perspectives on the capacity of different preschool language environments and how they might contribute to children's (multilingual) language learning. Mere participation in preschool does not automatically lead to language development in either Swedish or children's L1. Instead, stakeholders in the public debate, politicians and decision makers need to redirect the focus of the debate from multilingual children's participation in preschool, towards all children's participation in high-quality language teaching and rich and stimulating peer play talk, both of which should occur in equivalent preschool language environments regardless of the conditions in the neighbourhood where children grow up.

SES-conditions outside the home affect children's language development through various opportunities for linguistic exposure, play and interaction (Neuman et al., 2018), variations in teacher qualifications (Massey, 2007; Persson, 2014) and teachers' language use (Lareau & Goyette, 2014; Neuman et al., 2018). This thesis highlights that the participating children in the multilingual low-SES area in some ways face such "a double dose of disadvantage" (Neuman et al., 2018, p. 102). Aware of the fact that descriptions of children from different language backgrounds and socioeconomic strata can be problematic (Wedin, 2017), I suggest that the descriptions of differences between the monolingual and multilingual language environments in this thesis is interpreted as contributions to the revelation of disadvantageous and unequal conditions in preschool, and not as significant for individuals or groups.

It could be argued that the language diversity in multilingual preschools benefits the curricular goal on multilingual learning (National Agency for Education, 2018; 2025). However, such an advantage for the children in those preschools presupposes that their various L1 are used in rich and language-stimulating interaction. Unequal conditions arise when multilingual children have limited access to both L1-speakers of the language of education and interlocutors with whom they can use their L1, and for monolingual children when they have limited access to multilingual models. The importance of creating rich, diversified and supportive language environments is well documented (Hoff, 2006; Hoff & Core, 2013; Justice et al., 2013; Koyuncu et al., 2024; Kultti, 2012; Law et al., 2022; Salameh, 2022; Zauche et al., 2016), and the composition of preschool groups regarding both children and their teachers is in many ways conditioning for the language practices occurring in preschool. Hence, restructuring of children's groups and of preschool staffing provides opportunities for principals and organizational managers who are interested in working towards increased equality in the language environments of the participating preschools.

Conclusion

The contribution of this thesis confirms that many factors influence the language environment in preschool, for example the language background and competence of the teachers, children's ages, language proficiency levels and language backgrounds, the methods and materials used in language teaching, and children's formation in language communities. All these factors, and probably many more, are interdependent and influence each other.

Children make strategic choices regarding which language to use in different contexts. In multilingual preschools, some children choose to use English as lingua franca during adult-free interaction. The Swedish vocabulary children expose each other to in preschool is shaped by their Swedish language skills, and there are language environments in this thesis where children cannot act as sources of rich and diverse input to each other. All children have the right to participate, not only in socially rich and engaging play, but also in language conducive play where they can use and develop the curricular target languages (Swedish and children's various L1) (National Agency for Education, 2025). Multilingual children might need teacher support to linguistically enrich their play, and teachers in such preschools need to know and use a rich and diverse lexicon, advanced grammar and decontextualized language in the language of education (cf. Kultti, 2024).

Children's play appears as a potent language teaching activity that could be implemented to a greater extent in the language teaching in multilingual preschools. However, participation in children's play builds on a teacher's presence over extended periods of time which may require additional resources.

Good conditions for concept development, abstract thinking and interaction are created when children are allowed to take initiatives and teachers responsively follow them in language teaching. Hence, teacher responsivity is significant (cf. Pramling Samuelsson, 2025). Training preschool teachers how to improve their responsively oriented interactions with children might be a productive way of promoting the language learning environment of both monolingual and multilingual preschools. In that context, SSS can be a valuable didactic tool for teaching children with SEN but can interfere with teacher's interactions with children who have at least some verbal language skills. Hence, it is not a question of using SSS or not in preschool, but more a question of how it is used, why, with whom and in which situations.

Future research

Future studies should dig deeper into the interactions and connections between the various factors influencing the language environments of preschool, for example how children's formations in language communities (Lave & Wenger, 1998) impact children's multilingual language use and language learning and children's use of code-switching and crossing in preschool (see Björk-Willén, 2017; Meisel, 1994; Poplack, 1980; Rampton, 1995; Yow et al., 2018). Also, even if the benefits of peer interaction on L2 learning have been highlighted in recent years (Cekaite et al., 2014), the impact of peer language on children's language choices are still obfuscated. Future research should focus on the impact of peer interaction, motivation and preschool language policies on children's language choices.

Preschool teachers navigate in a linguistic landscape where Swedish, English and children's and teachers' various L1 are used. There is limited research on how different teaching strategies, in various language environments, contribute to children's language development longitudinally. For example, Rowe (2012b) points out that since we cannot know what someone understands by observing interaction, research methods based on recordings and transcriptions cannot tell us anything about language comprehension. The combination of language tests and interactional data can be further explored, and I will follow a future debate within the research community with interest. Since all languages are important resources in children's participation in a multilingual and globalized world, there is no doubt that all children's languages need to be supported, and future research should explore how this can be done in preschool.

Another unexplored phenomenon seems to be the double L2 pedagogical interaction, where both teachers and children are L2-speakers of Swedish in settings where Swedish is the language of instruction. Since many teachers feel insecure about how to support languages that they do not speak themselves (Puskás & Björk-Willén, 2017), and since the preparatory work for this thesis showed that some teachers who speak Swedish as L2 find it difficult to teach in Swedish, future research should explore the what and how of such teacher-support.

Implications

As was noted in the previous section, an array of factors influences the language environment in preschool. Many of these factors are interdependent and influence each other. As van Lier puts it; the pulling of one string makes the other strings move in response (van Lier, 2010, p. 4). Therefore, all interventions aiming at improving the language environments of preschool need to be documented and evaluated continuously.

This thesis highlights some aspects of unequal conditions in the language environments in high-SES monolingual and low-SES multilingual preschools. Such conditions should be reflected in the distribution of speech and language therapy (SLT) resources both in municipalities and in health care. Also, teachers alone cannot ensure equal opportunities for all children's language development in preschool. Principals, organizational managers and decision-makers can work towards all children's equal opportunities for language and literacy learning (Allen et al., 2014). Although this thesis is based on a single municipality in Sweden, the situation with a strong division of monolingual and multilingual children already in preschool is not unique to this municipality. Similar situations in other places are well documented (see for example Evaldsson, 2002; Flyman Mattsson, 2017; Lareau & Goyette, 2014; Massey, 2007; Neuman et al., 2018; Sandell Ring, 2021; SOU, 2020; Swedish School Inspectorate, 2022) and the results of the current thesis may therefore have relevance both nationally and internationally.

Below, I will focus on pedagogical implications for the preschool practice, which are also relevant to all speech and language therapists (SLT) who are working in or with preschool education.

- As shown in study 3, multilingual children need teacher support to linguistically enrich their play. It is important that all teachers in such contexts are given the opportunity to 1. participate in children's play and 2. implement language teaching including a rich and diverse lexicon, advanced grammar and decontextualized language in meaningful interactions with the children.
- Drawing on the findings in study 2 and 4, multilingualism alone does not constitute a basis for introducing SSS in preschools where children have developed at least basic verbal language skills. The use of SSS should always be responsive and directly related to children's communicative needs.
- Children's motivation and opportunities to participate should be considered in all language teaching activities. Responsivity, playfulness, exploration and joint action are fruitful strategies for increasing children's engagement and interaction in language teaching. Training preschool teachers in how to improve their responsively oriented interactions with children might be a productive way of promoting the language learning environments in both monolingual and multilingual preschools.

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Avhandlingens övergripande tema är språkmiljöer i förskolan. Det saknas kunskap om hur olika aspekter av den interaktiva språkmiljön i förskolan relaterar till barns interaktion, språkanvändning och språklärande. För att belysa dessa processer inkluderar den aktuella avhandlingen fyra delstudier som fokuserar på olika delar av lärares och barns interaktion i vardagliga förskolekontexter. Avhandlingens syfte är att belysa variation i barns och pedagogers interaktion och språkanvändning i enspråkiga och flerspråkiga förskolor.

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