# Norwegian home and preschool environments reflected in early vocabulary developments

## *A theoretic and empiric study*

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Master of Philosophy in Pedagogy

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June 2016

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**TITLE:**

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early vocabulary developments  - A theoretic and empiric
study

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**AUTHOR:**    Lindsay Burkhart

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**EXAM:**   Master's thesis in Pedagogy          **SEMESTER:** Spring 2016
        Specialization in Pedagogic psychologic counseling

</td></tr>
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**KEYWORDS:**

Preschool

Oral language and vocabulary development

Preschool learning environments

Early childhood home learning environments

Shared reading

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# Abstract

Increasing focus has been given to the role language acquisition and developments during the preschool years can have for later language and literacy skills. A child's first spoken words represent an important milestone in early development, however a child´s participation in language rich environments takes place long before they are able to produce and demonstrate this knowledge. It can be understood that being a part of an environment where others are using words meaningfully contribute to our access to word meaning and understanding (Meyer & Baldwin, 2007). Being able to identify variables within a child's environments during the preschool years that can be decisive for how early oral language developments occur, can be of value both in understanding possible preventative measures and determining positive influential factors.

This thesis explores five variables that have been found to be language appropriate, in an attempt to describe relationships between home and preschool environments and a child's expressive vocabulary outcomes in a Norwegian context. Through observations, interviews, and vocabulary assessments, a series of correlation analyses are used to reveal how a child´s early oral language developments can vary depending upon the contributions that shared book reading, parental education, and staff's ability to converse with children may have. The data gathered is based upon and in cooperation with the Better Provision for Norway's Children in Early Childhood Education and Care project (BePro), which has included a randomized sample group of 1211 participants from 92 preschools in differing regions in Norway. The results presented are derived from the assessments gathered when participants were around the age of 3 years in an endeavor to establish a representative depiction of early vocabulary outcomes.

Similar research has acknowledged the implications that home and preschool environments can have for both early and later vocabulary skills (Dickinson, 2001). The findings in this thesis suggest some similarities, but also differences that have been found within the BePro sample group. First, the frequency of shared book reading in home environments was found to be the most decisive factor when examining relationships between vocabulary outcomes and environmental factors. Furthermore, maternal education showed an almost equally significant contribution to vocabulary outcomes. While these findings were minimal, it

confirms that home environmental factors were more detrimental than the preschool language practices investigated. This in many ways, confirms similar results that both Tabors, Snow, & Dickinson (2001) and the EPPE study, among others, have found underlining the importance of parental education and shared book reading in home environments. This does not, however, exclude the possible implications preschool language practices can have for vocabulary outcomes, as some of the alternative factors such as age and additional demographic qualities were limited based upon the defined selection of environmental variables. Conclusively, this thesis, examines further possible explanations to why and how the variations in vocabulary can be interpreted and the implications this can have for further research and early education practices.

# Acknowledgements

The basis and beginning of this project would be non-existent if not for the opportunity that allowed me to participate in becoming familiar with and meeting many dedicated teachers and children through the BePro project. I have been encouraged to observe interactions that embody the care and support that both family and early educational settings can provide for an individual in such a fundamental period of life.

Thank you to Elisabeth and Maren, among others in the BePro project, for having the confidence and entrusting me with information that has required so much of your time and dedication.  I truly appreciate the feedback and support I have received, and consider it an honor to have learned and worked together with you. Moreover, it is more than necessary to thank my dedicated supervisor,Vibeke.  Your concrete advice and diligence amidst my own confusion and many questions developed this project into something meaningful and concise. Thank you for your patience and availability.

Having the chance to study together with such capable and hardworking classmates has been such a privilege. I am appreciative for being able to share both the struggles and pleasantries of this graduate program with each one of you.

This encompasses also, a more personal journey.  In the process of writing, there have been moments of reflection where I have been reminded of my own upbringing and recognize the effort and enthusiasm my own parents have used to instill a love for learning and reading in me.  This is a contribution that is irreplaceable. In the same way, it would be impossible not to mention the numerous friends and family, both in Oslo and the States, which have supported and motivated me in completing my education in a second language and in the writing of this thesis. I am convinced that this is a feat that is only possible through the efforts and kindness of others.

Thank you.

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# 1   Introduction

Language acquisition in early childhood has gained increasingly strong associations to having predictive qualities for later language developments and literacy. The various components within language development have proved to be complex and interdependent which can make it challenging to define which factors affect such developments and in what degree. It is, however, apparent that a child's academic success is strongly influenced by the knowledge and skills that they have acquired before entering school, which can suggest that literacy related behaviors are formed long before one is able to read or write (Rhyner, 2009).

The components of language knowledge and acquisition are often referred to as the phonetic, semantic, syntactic, and pragmatic domains, all of which are present in any interaction where language is in use. Language acquisition can, therefore, be understood as a process involving social coordination. A child's first spoken words represent an important milestone in early development, however a child´s participation in language rich environments takes place long before they are able to produce and demonstrate this knowledge. It can be understood that being a part of an environment where others are using words meaningfully contribute to our access to word meaning and understanding (Baldwin & Meyer, 2007).

Emphasis has therefore been placed on the role of language development in the preschool years and the implications this may have for later language and literacy, as well as school performance. Referrals for early intervention are commonly related to a child´s delay in such a milestone or failure to acquire their first spoken words (Duff, Reen, Plunkett & Nation, 2015). This could imply that pre-literacy skills may be used to identify children at risk for reading and language difficulties at an early age. Such assessments could be of significant preventative value and prove relevant for further research.

## 1.1   Aims and overall research question

Findings show that vocabulary discrepancies provide compelling evidence resulting in later reading-comprehension difficulties which are stable in the absence of intervention. A poorer command of oral language skills in elementary school students can be seen as a predictor for later risks in poor reading comprehension (Lervåg & Grøver Aukrust, 2010). Longitudinal studies have demonstrated direct and indirect influences of vocabulary on reading achievement, supporting assumptions that interventions and support could be valuable if

introduced early in preschool when the highest rate of vocabulary growth occurs (Pollard-Durodola, Gonzalez, Simmons, Kwok, Taylor, Davis, Kim & Simmons, 2011). Even though there may be a lack of agreement on the exact skills or knowledge that can characterize emergent literacy skills, there is a general consensus that skills, knowledge, and attitudes are developed even before reading and writing begins to take place. Oral language skills are one of the components used to guide understanding of emergent literacy abilities as this can provide a foundation for early and later decoding proficiency. Children´s vocabulary as the focal variable of oral language skills can be a powerful predictor of a child´s later reading achievement (Kim, Im, Kwon, 2015). This promotes the need for further research and greater understanding of how vocabulary developments occur and the factors that can be possible positive influences for such developments.

The purpose of this paper will therefore be to address some of the various components that can be significant for a preschool child´s vocabulary acquisition and oral language development, both in hopes to be lucrative for preventative measures and also increase understanding of language practices and their tendencies in Norwegian preschools and homes. The question at hand and aim is as follows:

> *What does a preschool child's vocabulary ability reflect regarding practices and factors within Norwegian preschools and home environments and their possible contributions to early oral language developments?*

Attempts to understand the relationships between variations in home and preschool environments and a child's expressive vocabulary outcomes have focused on five potential influences; shared book reading in the home, parental education levels, preschool staff's ability to guide children in their use and understanding of language, and shared book reading in the classroom.

### 1.1.1 Central research issues in this thesis

This thesis is moreover based upon and in conjunction with the research studies of The Better Provision for Norway's Children in Early Childhood Education and Care (ECEC) project (BePro) in which I participated in collecting data. Supported by the Norwegian Ministry of Education and Research, this project has focused on collaborating with a similar international study known as the EPPE study (Early Provision of Preschool Education), in attempts to

understand the varying qualities early education and care can have on children's wellbeing and social, emotional and cognitive development. This thesis will be focusing on the vocabulary developments and language practices that have been observed in correlation with home and preschool settings.

Relationships between home learning environments and vocabulary are acknowledged in this thesis through the two following items: a) the relationship between parental education and a young child's vocabulary learning and b) the relationship between parent-child book reading and vocabulary learning.

Relationships between Preschool learning environments and vocabulary is specifically addressed in this thesis through three of the following issues: a) the relationship between staff's guidance in a child's understanding of language and their vocabulary outcomes b) the relationship between staff's guidance in helping children use language and their language outcomes c) the relationship between a staff and child's shared book reading and vocabulary outcomes.

These five issues will be addressed in the outline and introduced subsequently within the results chapter. These specific research items and their relationships will be the focus of the discussion and reflected upon in the results shown.

## 1.1.2  Home learning environments

*Home Learning Environments: parental education and vocabulary*

An imperative factor that has been found to be predictive of a child´s early vocabulary development is parental education or socioeconomic background factors. These differences can be found in variations in shared-book reading in the home, where there are not only noticeable differences in the amount of shared reading that takes place, but also the quality of reading that can promote vocabulary skills (Malin, Cabrera & Rowe, 2014). It would be logical to assume that there is a possible correspondence between the amount of education a parent has and the amount of exposure a child might have in their home learning environment to activities that promote language and vocabulary development. Malin, Cabera, and Rowe (2014) have found that low-income parents are both less likely to practice shared-reading with their children, along with a variance in the quality and size of parental vocabulary of their

middle- to high-income counterparts. While there is great within-group validity in income levels, it can be hypothesized that the level of education and economic background can attribute to the literacy experiences children have at home and their vocabulary growth in the first three years. This paper will also be investigating if this is a correct explanation within the BePro project, and what implications this can have for Norwegian preschool children.

*Shared book reading as a catalyst for vocabulary development*

Practices that accelerate vocabulary acquisition in young children, especially as means for those at risk of delay, have found shared book reading to have effect. This is a general practice that involves an adult reading a book to a child or group, with an encompassing range of methods that vary in complexity and focus. These methods may vary, but the common purpose is to strategically and actively engage children in telling about the story, its characters, events, and vocabulary (Pollard-Durodola et al., 2011). This is shown to be one of the most robust ways of exposing young children to new words in meaningful contexts, which is a valuable means of word learning. Few studies have been able to differentiate whether the value of shared reading resides in the frequency of exposure or in the adult behaviors aimed at advancing language and literacy (Gonzalez, Pollard-Durodola, Simmons, Taylor, Davis, Fogarty, & Simmons, 2014). Shared book reading is one of the factors that will be assessed as a possible influence on the individual outcomes of vocabulary knowledge through assessments taking place especially in relationship between a parent and child. What commonalities and differences can be found within the home environments represented and is this practice significant for the vocabulary outcomes of younger children in our sample group?

## 1.1.3 Preschool learning environments

*The importance of staff-child conversations*

 Perhaps even more commonplace is the daily moments for conversations that can provide opportunities for word learning and extending these meanings into present experiences. It is generally accepted that preschool staff having frequent, linguistically rich and meaningful conversations with children, can be critical for accelerating children´s early language

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skills. Cabell, Justice, McGinty, DeCoster, & Forston (2015) even suggest that conversations can be more influential to children´s language growth than shared-book reading. Staff -child interactions found to encourage language developments consist of responsive strategies that invite children to initiate conversations, prompt turn-taking, and build on children´s talk. Novel words can be accompanied by social cues, such as pointing, or lexical cues (providing details about the meaning of a word). These cues in conversation can provide an opportunity that allows for extraction of information that may serve to support word-learning and support children´s vocabulary development. The extent and frequency of a staff´s multi-turn conversations, child-initiated conversations, and staff's strategy use are found to be of particular value as features that can promote children´s language growth (Cabell et al., 2015).

These aspects will be used as a means of measuring the correlations that may be present between staff-child conversations that take place in the participating preschools and vocabulary knowledge. What tendencies can be found in helping children understand language and helping children to use language and are these qualities reflected in a child´s vocabulary ability?

*Shared book reading as a language learning practice*

Similar to shared book reading in the home, book reading in preschool settings is said to be a practice that engages children in texts and creates occasions for exposure to language that is linked to later literacy. Book reading can be understood as one of the occasions in a day where staff are actively direct children's attention to words and language construction (Dickinson, 2001). This is, nevertheless, found to be dependent on the settings and interactions that take place surrounding circumstances. It could be that children that primarily have an interest for books are those that participate in this activity, while others are who are less fond of or familiar with reading may respond differently (Dickinson, 2001). Staff strategies in communicating and involving children in intellectually challenging staff -child interactions in combination with book reading, have been found to be relevant elements in establishing meaning and activating involvement.

While it may be challenging to decipher which of these particular practices our sample group is participating in, relationships will be investigated to determine if shared book reading in preschool environments are present and reflected in the vocabulary outcomes at 3 years of

age. Is shared book reading something that is prioritized in early preschool settings and can this reveal how this type of exposure to language and literature can be present in early vocabulary developments?

## 1.2     Outline of this thesis

This thesis is composed of the theoretical, methodical and empirical work in cooperation with the research project the Better Provision for Norway's Children in Early Childhood Education and Care project (BePro). The text is arranged into two parts; the theoretical foundations and the project results and analyses.

The first segment presents the theoretical framework that is representative for the underlying perspectives and approaches this thesis is based upon. Relevant research within this field is also reviewed and discussed. The theories within oral language development, outlines how oral language developments take place by investigating internal and outlying processes in language development along with factors from the preschool and home environments that can be of significant value in how these occur. This describes the sociocultural implications that can be found in the five predicted relationships between differences in home and preschool environments and a child's expressive vocabulary outcomes in the BePro project.

This will be preceded by chapter 3, where the sample group and the selection process will be described. In addition, the choice of methodical implementations will be presented, and both advantages and disadvantages of the choice of research design and assessment tools will be considered.

The remainder of the text will focus on discussing and analyzing the relationships and results found between the five factors that we have selected as a part of this study and the sample group's vocabulary outcomes. This will conclude with some additional considerations on how these findings reflect or overlook previous research and theoretical perspectives, and what implications this may have. In closing, we will also review how BePro has assisted in our understanding of the practices and tendencies that take place in oral language practices in Norwegian preschools and home learning environments.

# 2    Theoretical perspectives

 A child who learns a language achieves the ability to recognize and produce sounds, in addition to how the meanings of the various sets of sounds can and cannot be combined into possible words. Language is constructed of these complex systems that include ways of combining a limited set of signs or sounds to create an unlimited set of meanings (Shatz, 2007).  Differing theories continue to explain and define the varying components of language and how acquisition takes place and can be predictive especially in the early stages of childhood.  Word meanings, are however, not attained solely in isolation, but are connected within the context of world concepts and external influences (Pollard-Durodola et al., 2011). This chapter will aim to give a theoretical perspective and foundation to both help understand how oral language development is construed and occurs.  Differing perspectives will also be discussed in the light of current and relevant research that is pertinent to early vocabulary developments. It will conclude with the implications home and preschool learning environments may have, especially relating to components such as shared book reading, language rich interactions between preschoolers and staff, and socio-economic background.

## 2.1 Theories within oral language development

In the field of child study there has been an enduring debate regarding the roles of heredity and context dependent variables and how these seem to explain the process of an individual's language developments.  This debate can be evident in the theoretical perspectives that characterize language developments such as the nativist, cognitive developmental, behavioristic, and interactionist perspectives. These perspectives represent the various aspects composing neurological processes that influence individual's expressions and experiences, in cooperation with the contexts and patterns that can have significant impact on language outcomes (Otto, 2010).  Without eliminating the significance of the contrasting viewpoints within preschool language developments, this thesis will be concentrating on elements and interactions that occur within the home learning environments and preschool environments and the possible functions these can have for a preschooler's vocabulary developments.

## 2.1.1 Components of oral language and vocabulary

Vocabulary developments are understood incorporated as a part of oral language and through the elements that constitute such developments in this field. These components can be defined as and related to differing functions found within oral language commonly referred to as phonology, syntax, and pragmatics (Shatz, 2007). The sounds and sound system of a language are described as the phonological component within language. Phonological knowledge is the ability to be able to distinguish sounds and discriminate between similar sounding words (such as can and car). Phonetic differences become meaningful because two similar words can refer to differing objects and actions (Otto, 2010). Phonemic awareness appears in infancy and toddlerhood as children begin to produce and differentiate between the sounds used in communication with those around them. Later on in the preschool years, a more conscious awareness of distinct speech sounds materializes and they begin to deliberately manipulate their language. A child´s ability to understand the relation between speech sounds and discern differing words, is evident in the use of this same knowledge when developing later literacy skills.

Syntactic knowledge embodies the use of rules and grammar that prescribes how words are combined to create sentences or meaningful phrases or utterances (Otto, 2010). Children acquire an understanding that word order is imperative for creating meaning and in comprehending another´s message. The importance of word order awareness occurs long before children can consciously identify the grammatical structures and how they are used. The importance of word order is therefore, questioned as something unconscious, with research showing that there are few cases of children violating syntactic rules. This could be predictive of the fact that violating syntactic rules result in the speaker being misunderstood or ignored, and using correct syntax will enable them to be comprehensible, useful and meaningful in their verbalizations.

Recognizing and making use of sounds and grammatical systems can be classified as context specific. Differing social-cultural settings require that the transmission of information to others takes place in a way that is appropriate and effective. Such social-cultural interactions bring about an awareness of when to speak or not speak, what can be spoken about, with whom, and in what manner. Speaking is not just the use of words or sentences, but "doing things with words" (Hoff, 2014). This knowledge is known as pragmatics and contributes to a child learning specific styles of speaking for certain contexts with respect to the expected

phonetic and semantic components used in these settings (Otto, 2010). Language is understood as something that has multiple communicative functions dependent upon the environmental factors and motives (Hoff, 2014). The development of communicative competence and oral language skills can be regarded as a reflection of internal advancements and external influences. Many theories surrounding language development have focused on how internal and external factors can have implications for how the differing components can develop at various rates and have differing consequences in later years. Distinguishing these differences can help to better understand the complexity of language acquisition and the differing roles the various parts elements can play.

## 2.1.2 Oral language developments as expressive and receptive

Language can be seen as a foundation for an individual´s perceptions, communications, and daily interactions. It is a system that allows for categorizing, organizing, and clarifying our thinking. This can in most basic terms be defined as being both receptive and expressive in nature. Receptive language aids to comprehension of words (verbal symbols). In language acquisition, this can be identified as a child knowing what a specific word refers to or represents when it is used. Expressive language is often referred to simultaneously in connection with social interactions. As a child´s speech mechanisms and abilities mature, they are more capable and gain more control over producing speech specific sounds. Such language competencies enable a child to be communicators in a variety of settings and participate even more effectively in daily interactions as independent individuals (Otto, 2010). There is, however, agreement that language knowledge and skills develop far before a child's first words are spoken.

This implies that a child can perceive and acquire specific characteristics of language, but have not yet attained expressive skills or the ability to produce language that demonstrates this knowledge. Such implications give reputable evidence that participation in early language experiences are of significant value and receptive behaviors during infancy and toddlerhood provides a foundation for succeeding expressive language abilities (Otto, 2010). Research and standardized assessments in preschool situations have confirmed the succession of such developments and how expressive and receptive behaviors become relatively stable over the preschool years and in early primary school children (Ryan, Gibbon, & O'Shea, 2016).

The pace in which children learn and become aware of more complex components within language, such as morphology, is still a discussed topic. Researchers have endeavored to understand how oral language skills in early childhood that are represented in expressive/receptive vocabulary and narrative comprehension, can be associated with later established decoding skills (Kim, Im, & Kwon, 2015).

## 2.2 Review of relevant research

What then distinguishes the nature of language learning capacities, especially with regards to oral language progressions? In addition, what has been found within current research in language development that accommodates establishing a more concrete understanding of the complexity of vocabulary acquisition and the differing roles the various perspectives can play? As mentioned, components that can better define some of the qualities within vocabulary developments have been observed through oral language skills. It can be discussed how the evolution of these components can vary based upon age and be influenced by the existing environmental and cognitive factors, these variations in individual language developments in early childhood are found to nonetheless have significant and lasting effects (Wilson & Lonigan, 2010).

Research and current findings continue to examine how the differing aspects within language development and emergent literacy can relate to each other and be predictive. Emergent literacy skills or the skills, knowledge, and attitudes children accumulate about reading and writing previous to formal teaching of these skills, are found to play a key role in children becoming successful readers in their school years (Kim, Im, & Kwon, 2015). Oral language skills have been found to be one of the components within emergent literacy that is most predictive of later reading abilities, and can remain stable over time in the absence of intervention. Relative to their same-age peers, children with larger vocabularies have also shown to become more proficient readers than children with smaller vocabularies (Wilson & Lonigan, 2010). The possibility to identify the kind of learning opportunities that can strengthen expressive language and vocabulary skills, along with understanding the differences and outcomes in learning environments, can be beneficial for strengthening language developments in early childhood. Variations in learning environments contain, accordingly, a number of important features including the activities and interactions that take place and the quality and resources that support or hinder these (Rodriguez & Tamis-

LeMonda, 2011). Hence these patterns of engagement within differing contexts can be features of interest to investigate and measure in hopes of finding and confirming variables that can be of significant importance in oral language development.

 This thesis has chosen to consider the relevance of five elements within preschool and home learning environments that have previously shown to have a relationship to early vocabulary developments. These findings assess the significance that 1) shared book reading in home learning environments, 2) the maternal and paternal education levels of a preschooler, 3) shared book reading in preschool settings, 4) a staff's ability to help preschoolers use language, and 5) a staff's ability to guide a preschoolers understanding of language can have on attained vocabulary skills in early childhood. Eventual research and evidence found in existing studies within these areas can imply what kind of tendencies can support or oppose the correlations within the BePro sample group and its outcomes, along with alternative explanations for how these correlations and gathered data can be evaluated.

## 2.3 Home learning environments

Generally speaking, it can be assumed that children cannot learn words that they do not hear, and thus those that hear only a limited amount of words can be in turn, expected to acquire a limited vocabulary (Hoff, 2006). The kinds of opportunities a home environment provides for a child are dependent upon what parents desire to accomplish through interactions and the sociocultural organization that can shape the kind of learning opportunities provided (Hart & Risley, 1992). Home learning environments and the constructs of parenting are summarized by Hart & Risley (1992) as being compromised of parent-child interactions, the organization of the home environment and child-rearing practices. Parents who are found to be responsive, sensitive and accepting of a child's behavior, and who provide structure, organization, and a generally positive emotional climate in combination with stimulating toys and interactions, are associated with providing support for a child's language and early literacy development (Roberts et al., 2005).

The development of differing aspects of abilities within oral language are therefore, related to the availability of environmental support. In likeness with teacher-student interactions in preschool environments, children who hear more complex structures in speech in their home environments, are more likely to, in turn, produce and understand more complex structures than those who hear fewer and less complex words (Hoff, 2006). Home language experiences

are a source of significant influence reflecting the settings and conversational partners.  In many regards, a child's home language will contribute to making them more familiar with stylistic aspects of language use. This can be a factor that contributes to some children being more susceptible to understanding and being familiar with the style of language and literature that is used later in school settings. This thesis has particular focus on two variables within the home learning environment that are related to socioeconomic factors and practices that may contribute to variations in the BePro participants vocabulary developments. These factors are the education levels of both the mother and father, in addition to the amount of shared book reading that takes place in the home.

## 2.3.1 Relations between parental education and young children's vocabulary learning

Evidence is consistent in confirming that variations in demographic and cultural characteristics are major contributors to variations found in practices within home environments and parenting variables in early childhood (Hoff, 2006).  Socioeconomic factors such as income and levels of education of especially mothers, has been shown to be a significant factor in altering the rate of language development in the early years.   Economic disadvantages have especially been identified as a source of inequality, showing that language development rates tend to occur at a greater frequency for those with a higher socioeconomic background (Richels, Johnson, Walden, & Conture, 2013).  Previous research has also implied that children most at risk for early oral language and vocabulary delay come from homes with lower incomes in which socioeconomic factors may be a disadvantage to a child's educational and experiential opportunities (Pollard-Durodola et al., 2011). While economic factors are not alone responsible for language developments, the implications that lower education levels and variations in life contexts can have, may be evident in tendencies found in different measures of input, kinds of speech, and diversity of information (Rowe, 2012). This could also imply that factors in enabling or hindering parents' provision of supportive learning environments could be determined by economic advantages or disadvantages (Rodriguez & Tamis-LeMonda, 2011).

Ranges in socioeconomic status were found by Hart and Risley (1992) to impact the variation and quantity of knowledge across the early childhood period.  Relatively uneducated and economically disadvantaged parents were found to have a tendency to talk to their children

less than those with higher socioeconomic status. This was also reflected in Meredith Rowe's study (2012) where it was discovered that children from families with professional background were found to be exposed to 215,000 words during language experiences in a 100 hour week, in contrast to 62,000 words for the average child in a low socioeconomic family. Some findings tend to underline how quantity may be influential in the language developments in preschool age, and that the amount of time mother's spent talking with their children was greater among families with high socioeconomic status (Richels et al., 2013). Rowe (2012) nevertheless, emphasizes that not all amounts of talk are influential and that incorporating diverse and sophisticated vocabulary with toddlers and engaging them in conversations about past or future events has shown to be associated with differences in children's vocabulary abilities. Explanations that are challenging and contain decontextualized language such as narratives and explanations reflected differences in language knowledge and use that had positive effects on language outcomes.

It is accordingly of interest to understand what the probable causes may be in the reported differences in language outcomes at preschool age when correlated to socioeconomic background. Academic competence can be a greater decisive factor in reported disparities in language achievement among young children (Chen & Kim, 2013). Socialization and cultural experiences within the home and surrounding community can be influenced by the parental educational levels that promote structures and routines related to diverse and complex language use. Parents provision of informal literacy experiences such as exposing children to written language through for example, shared book reading, encourage children's receptive language and early vocabulary acquisition. Learning environments supporting such experiences contain the conscience choice of practices in which parents and children engage, the quality of interactions, and the materials available (Rodriguez & LeMonda, 2011). Literacy promoting behaviors can be consequently, indirectly related to educational levels that may be associated with parents' abilities to provide such supports. Traditional views of parenting often imply that the mother is the primary caregiver of a young child even though it is quite possible that fathers also provide a unique contribution to their child's vocabulary and language developments (Richels et al., 2013). It may, accordingly be because of such reasons that maternal education appears to be associated with learning environment trajectories that are predictive for the kind of learning environments they provide for their children. The role that literacy promoting behaviors and practices can be directly related to language developments that occur, but factors such as maternal education and employment can

indirectly be related to target areas that might support the ways in which such practices are supported and the opportunities to learn about their surroundings through educational materials (Rodriguez & LeMonda, 2011).

Major differences found in parenting qualities or home learning environments, according to Hart and Risley (1995), were nevertheless, related to the extensive amounts of time, attention and talking that parents from higher socioeconomic backgrounds invested in their children as opposed to their lower socioeconomic counterparts. Active engagements may not be exclusively determined by education levels or economic status, but relationships between home environments that value quality parent-child interactions and children's language developments are potentially found to be more present within homes where parents have higher socioeconomic status.

### 2.3.2 Relations between parent-child book reading and vocabulary learning

It is agreed that home literacy environments have been identified as one of the most important factors for explaining individual variability in emergent literacy skills, such as oral language skills (Kim, Im & Kwon, 2015). Enriched home literacy activities have, in addition been found to contribute to increased vocabulary skills in early childhood that also facilitate to interactions that emphasize learning skills that support expanding literacy knowledge. Rodriguez & Tamis-LeMonda (2011) have emphasized how shared book reading as a part of the home learning environment, is specifically related to informal literacy experiences that expose children to written language and in turn results in a promotion of children's early vocabulary acquisition. As with shared book reading in preschool settings, literacy activities in which parents and children and children engage, the quality of the parents' interactions with the children, and the materials that children have available for learning, can have implications for a child's vocabulary developments (Rodriguez & Tamis-LeMonda, 2011). This approach could range from simply reading a text aloud, to talking about the illustrations, or telling a story, to reading with interactions that include making inferences, asking questions or providing explanations and exploring interpretations beyond the text. These interactions can be related to increasing language skills by allowing the child to become exposed to print and how books are constructed or what the parent and child add to the text by making comments, asking questions and the conversations occurring during book reading (DeTemple, 2001). Shared book reading, in this way provides for possibilities to facilitate talk and

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chances for using complex and explicit language such as explanations, definitions, and descriptions.

A potential factor that portrays why reading is considered relevant for early language developments, in addition to reading strategies, is the connection it can represent between the parent and child. Roberts et al. (2005) reports that qualitative measures relating to maternal characteristics can positively influence a child's language developments. Sensitive, responsive, and supportive qualities present in mothers during language and literacy related activities, like book reading, seemed to provide a child with the encouragement and motivation that was needed to participate in language related interactions. Studies have shown that maternal sensitivity and responsiveness was the strongest single predictor of children's language and pre-academic skills at entry to kindergarten (Roberts et al., 2005). This could imply that social emotional qualities within the home such as supportive presence, respect for child's autonomy, and structure are additional outlying and indirect factors that play a considerable role in home literacy interactions and a child's early language acquisition and development.

The afore mentioned qualities are consistent with previous studies that have measured differing characteristics in the home learning environment along with practices that can be predictive for a preschoolers vocabulary. Literacy rich environments imply that a child has a greater exposure to books and literacy related activities, opportunities to practice complex language skills and diverse vocabulary, along with an understanding of the usefulness of print that can be a motivating factor for language developments (Kim, Im & Kwon, 2015).

It is, nonetheless, evident when considering socioeconomic standings, that it is not solely the frequency of book reading or even the quality of talk that accompanies book reading alone that is related to children's language and literacy abilities, but broader patterns of parent-child interactions that support language developments. How aware are parents of the importance of parent-child interactions and activities that have implications for early language development? Tabors, Snow, and Dickinson (2001) reported in their parent survey regarding questions about child development that 69% of parents agreed that a child's capacity for learning is not determined at birth and can be increased through how parents interact with them. This may seem to be rather optimistic, but the drawback is that the remainder of parents in this survey can be assumed to disagree with this statement. Informing and guiding parents about the effects language practices and parent-child interactions can have for early vocabulary and

emergent literacy developments are imperative, especially for those with additional challenges such as low-income and lack of educational background (Tabors, Snow, & Dickinson, 2001). Shared book reading is only one of numerous settings in which children have the chance to use and evolve language skills. Exposure to and interaction in a range of contexts provides rich opportunities for the use of differing kinds of talk and words. Book reading is one of these kinds of interactions that allows for the use of complex language that goes beyond the here and now and promotes talk that builds on connections to a child's experiences (DeTemple, 2001).

Current and prior research confirm that factors such as socioeconomic factors can contribute to home learning environments, as well as preschool environments which in turn can impact contexts relevant for language learning. Variations in these environments can be influential for the understanding teachers and parents have pertaining to the relevance language and emergent literacy practices have and how detrimental oral language developments can be in early childhood. The relationship between the quality of adult-child interactions, be that staff or parents, often reflect the knowledge and intentions that exist in connection to early language developments. Adult-child interactions that targeted child contributions and engaged children in intriguing, reciprocated discussions have been shown to be an imperative aspect of elements supporting strong vocabulary developments (such as stronger scores in narrative production, formal definitions, emergent literacy, and receptive vocabulary). Such practices were less likely to occur in preschool environments that are often characterized by a low teacher-child ratio, few occasions for one-on-one teacher-child dialogues, and minimal periods with rare word use or language focused activities such as shared-book reading.

It can be assumed that the implications that home learning environments have for early oral language and vocabulary developments are consequently highlighted by discrepancies and advantages that can be found in a child's home learning environment. Unfortunately Rodriguez & Tamis-LeMonda (2011) specify that few of these environments that start out as poor supports for language and emergent literacy improve by the time a child enters prekindergarten. Current research continues to discover what variations can be found in home and preschool environments that can give new insight and understanding pertaining to early vocabulary developments coupled with which interventions can be significant means for supporting practices that reinforce oral language developments in early childhood.

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## 2.4 Preschool learning environments

As discussed, differing qualities within varying contexts and interactions bring about an awareness of expectations or tendencies that can have implications for developments that take place. It is evident that early childhood experiences in language rich environments and exposure to appropriate uses and functions of print can be crucial and preventative (Tabors, Snow, & Dickinson, 2001). Classroom-based research within early childhood settings has shown that process qualities, such as social interactions and instructional practices of staff, can also be strong predictors of children's learning. Practices within the preschool learning environments that have been investigated in this thesis were measured by observing and scoring how preschool situations help children to understand language, staff-child interactions were rated as positive when staff made use of a wide range of simple, exact words, took part in verbal play and used a wide range of topics when talking with a child. High scores included aspects which emphasized meaningful interactions that were personal, frequent and language rich (Harms, Cryer, & Clifford, 2006).

While measuring the impact of preschool outcomes can be challenging to detach from variations found in a child's community and home environments, positive staff-child interactions and higher instructional quality are associated with early learning experiences that are related to gains in children's social and academic developments (Bassok & Galdo, 2015). Language and literacy opportunities in preschool settings can, therefore, be seen as possibilities to foster children's early language developments, and in some cases, serve as a preventative measure for disparities found in home learning environments (Dickinson, 2001). Are interactions in preschool environments, such as helping children understand and use language or the use of shared book reading present, and do they have implications for emerging expressive language skills?

## 2.4.1 Relations between staff's guidance in a child's understanding of language and their vocabulary outcomes

Learning and developing expressive language skills can be observed as a process that takes place within a social context. Classroom settings are, therefore, a situation that can provide for unique opportunities to apply strategies that promote optimal language growth during the preschool years. Significant associations have been substantiated between the positive effects of high-quality staff-child interactions and advancement of growth in preschooler's oral

language abilities (Chen & Kim, 2014). Meal-time conversations, daily activities, chores and play offer interactive contexts for word learning. High-quality interactions that encourage vocabulary acquisition are found to be transactions where a word is learned or illustrated in the context of a physical task or context of that being described in a verbal narrative. This concept of discussing words in meaningful contexts, known as fast mapping, makes connections between an object label and referent, illustrating how a word is a recognizable object that is physically present (Shany & Biemiller, 2010). Recent studies emphasize how mappings can prove to be partial over time, but with additional supporting information, such as an objects function, shape and other supporting details, can enhance word retention (Neuman, Neuman & Dwyer, 2011). A child's vocabulary understanding continues to become richer with extended experience, but the initial fast mapping can be seen as necessary for attaining concrete associations with a word.

Farran, Aydogan, Kang, & Lipsey (2006) observed that interactions relating to a child's verbal behavior were closely connected to the language environment presented by the staff. Staff rated as warm and using responsive language, including new vocabulary, resulted in situations where children were more likely to be observed as responsive or talking and listening in return. Such positive language environments were found to promote greater linguistic involvement and more intensive interactions. This appears that meaningful language related interactions are those that are associated with the quality of the staff-child behavior and not simply quantity. Classroom settings may provide, in essence, dissimilar language learning environments from home learning environments that are reflected in the social interplay taking place between staff and children (Farran el at., 2006). Preschool environments are characterized by limited one-on-one interactions and settings where staff tend to do most of the talking. The size of the group and daily routines can also limit the possibilities for children to engage and contribute; resulting in turn-taking routines that focus on what is generally known and not necessarily new material or words (Farran el at, 2006). Child contributions have been shown to be an imperative aspect of elements supporting strong vocabulary developments (such as stronger scores in narrative production, formal definitions, emergent literacy, and receptive vocabulary). Staff having a lower rate of expressive and communicative behaviors that encouraged child talk was identified as contributing to stronger scores in language production. Staff approaches for operationalizing this was by indicating interest, asking questions that encouraged children to clarify themselves, and commenting on a child's efforts (Dickinson, 2001). Engaging and intellectually challenging conversations

that involved discussions surrounding ideas or the meanings of words were also strongly related to stronger emergent literacy scores.

Dickinson, McCabe & Essex (2006) report through their study of Head start classes that during their observations of 8 to 12 intervals of 30 seconds each, it was found that teachers engaged in instructional talk (talk about language, ideas, print, numbers) only 12 % of the time. Teachers that performed well in this task were found to use instructional talk around 18 % of the time, whereas explicit talk about words was almost absent (1% of the time). Such patterns highlight some of the shortcomings that can be found in the amount and quality of teacher-child discourse surrounding the use of and opportunities for language rich interactions. Suggested explanations included positive associations when higher teacher-child ratios and higher educational levels among teachers were present, resulting in better language outcomes in children's achievement (Dickinson, McCabe & Essex, 2006).

These discoveries are rather unfortunate as previous research has shown that early language skills in preschool and the early years are critical for later educational success and provide foundation for later developments (Fricke, Bowyer-Crane, Haley, Hulme, Snowling, 2012). By the time children are 3 years of age, language and literacy developments occurring in preschool settings are primarily in connection with conversations they form in relationship to their staff and other students. Stronger programs can be a benefactor in providing settings important for fostering language growth. Especially imperative is the interactions that occur between the staff and child, and the quality of these interactions. Staff -child discourses are possibilities for intentional support of children's understanding and engaging in discussions, that show especially positive effects when combined with low student to staff ratio and staff who are energetic and sensitive to their students with well-developed language skills (Dickinson et al., 2006).

## 2.4.2 Relations between staff's guidance in helping a child use language and their vocabulary outcomes

As with practices pertaining to helping a child to use language, fast mapping provides young children with possibilities for conceptual understanding of words. Conceptual information and connections have been indicated to contribute to children as young as 3 years old in acquiring and retaining vocabulary developments (Farran et al., 2006). Although knowledge of word meaning is not shown to increase a child's comprehension, knowing word meanings

is one indication that children are knowledgeable about related concepts. For the reason that word meanings do not exist in isolation, but are connected to environmental concepts, educator's concentration on teaching word knowledge within a specific context can better prepare for a child's future comprehension (Pollard-Durodola et al., 2011). Significant effects on word learning and the possibilities for understanding and retaining new words, has been shown to not be merely dependent upon repetition and multiple exposure alone. Research verifies that deeper processing of words can take form through enhanced vocabulary instruction that not only relates words to children's personal experiences, but also encourages children to use words across new contexts. Conversations that provide possibilities for more cognitively demanding, higher-level discussions are associated with larger effects on vocabulary growth (Gonzalez et al., 2014). Staff talk that is thought provoking and encourages children to use higher cognitive questions and comments is hypothesized to lead to deeper, sustained and more complex thinking about words and concepts. Enhanced adult talk encourages children to reflect upon or analyze words in ways that create challenges and opportunities for growth, especially when exposed to rare, sophisticated words as a part of semantically rich contexts (Gonzalez et al., 2014).

Accepting that conversations are a well-established criteria that can be essential to a child's vocabulary understanding and development, it can be crucial to discern what qualities and volume of conversations are found to be ideal in preschool settings. Cabell et al. (2015) have discovered through their study of teacher-child conversations in 44 preschool classrooms that educator's responsive strategies, engaging in multi-turn conversations and use of elicitations and extensions in conversation, are positive predictors of children's vocabulary growth. Engaging children in multi-turn conversations within a particular topic serves to increase and expose children to novel and semantically related words that can be meaningfully used and learned. Educators that take initiative to follow a child's initiations and a child's verbal leads, was also observed as a practice that indicates greater vocabulary acquisition as talk is surrounding topics that are of interest for the child. This has also been featured as a practice in early development between infants and parents, referred to as joint attention. The use of teacher strategies may, however, reflect qualitatively different types of conversational interactions between staff and preschoolers and not necessarily long term vocabulary outcomes (Cabell et al., 2015).

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Be that as it may, similar findings have supported the importance of aspects of staff conversations on preschool vocabulary development. Kindergarten language outcomes, such as narrative production and formal definitions, were influenced by percentages of rare words used by staff and rare-word types used by children with staff (Dickinson, 2001). Features such as staff abilities to indicate interest and extend children's comments by asking questions, allowed for valuable practices that allowed for conversations to be focused around a child's contributions. It can, nevertheless be assumed that the use of rare words and a varied vocabulary are dependent not only upon conscience classroom practices and conversational strategies, but also reflective of educational backgrounds and beliefs that individual staff hold themselves. Concentration on developing classroom curriculum and investigating variations in a teachers' background that can effect staff-child conversations, can be lucrative for developing preschool situations that support vocabulary developments.

## 2.4.3 Relations between a staff and child's shared book reading and their vocabulary outcomes

Young children are, however, dependent upon opportunities that make use of a wider and more sophisticated vocabulary than what is generally heard in every day conversations. Book reading has, for this reason, been the source of study for vocabulary training in the early years (Neuman, Neuman & Dwyer, 2011). Since the late 19th century, it has been generally agreed that book reading to young children is significant and can be related to early literacy developments and later school success (DeTemple, 2001). There are varying theories for both defining and explaining the implications that shared book reading may have for a child's early language developments. Previous longitudinal studies have found that there are both direct and indirect influences of vocabulary on later reading achievement and that discrepancies found early on, relate to later reading-comprehension difficulties in the absence of intervention (Pollard-Durodola et al., 2011). Shared book reading has therefore been promoted as a specific method for encouraging strategic and active engagement with a child in storytelling and discussion surrounding the characters, events and words used. This activity, however, can also imply a quiet lap time for the child, teaching of facts and skills, looking at pictures, or reading aloud the words printed on the page. Defining how shared book reading takes place and what practices have positive associations to vocabulary developments is, thus, essential for understanding how it can be meaningful for preschool developments.

Some of the most common understandings are that book reading helps children to learn to identify letters and read words, but research shows that there are also direct effects related to hearing books being read aloud, and that this may foster other skills such as an ability to comprehend stories and cultivating an interest for books and reading (Dickinson, 2001). It can also be said that reading aloud can support the development of children's ability to become familiar with the language of books and being able to learn strategies for extracting meaning from books. Shared book reading can be considered to be one of the few times during the day where language comes to the forefront and words are the central activity (Dickinson, 2001).

Despite its positive credibility, Bojczyka, Davis, & Ranab (2016) emphasize how the occurrence of shared book reading in and of itself can sometimes be misleading and that the quality of the interactions are of equal importance to the results this practice can have for vocabulary developments. Interactions that were found to be high-quality encouraged children to make inferences, ask questions, and formulate predictions, thus increasing children's exposure to and use of new words. Such exchanges are found to contribute to greater gains in language developments than when compared to passive observation. Tasks that promote and require children to formulate with their own words and think critically, can be said to be more cognitively rigorous than merely listening to the story read aloud, thus encouraging interactions that positively impact both receptive and expressive vocabulary developments (Bojczyka, Davis, & Ranab, 2016). In what degree such high-quality interactions take place on a daily basis in a preschool setting has been shown to be varying. Dickinson (2001) recounts that the time spent reading books in a preschool classroom seemed to be limited, perhaps grounded in limited prioritizing, time, or the children's lack of attention or restless behavior. It appeared, however, that teachers of 3-year olds that used high-level talk by incorporating interesting and cognitively challenging conversations, elicited to staff -child interactions that support children's developing language and story understanding along with reducing the time spent on group management (Dickinson, 2001).

This could suggest that shared book reading in a classroom is not necessarily a predictor for vocabulary outcomes as the tendencies to engage in intriguing, reciprocated discussions that are correlated to children's later language growth seem to occur seldom. In addition, classrooms that made books available and were used on a regular basis may in and of itself, produce a culture that develops positive attitudes towards school and language related

activities that enhance vocabulary knowledge (Dickinson, 2001). Evidence of restricted use of rare vocabulary and intellectually challenging staff -child interactions can underline the importance of providing guidance that allows staff to comprehend the long-term effects that oral language developments can have. Elevating awareness and opportunities for training can encourage understanding for the developmental nature of early language developments and contribute to classroom practices that foster preschool children's vocabulary, and ultimately, emergent literacy developments.

In sum, current research continues to discover what variations can be found in home and preschool environments that can give new insight and understanding pertaining to early vocabulary developments coupled with which interventions can be significant means for supporting practices that reinforce oral language developments in early childhood. Findings indicate that provision of language rich environments are a platform for extending word meanings into a context of relatable concepts and experiences. Words are thereby given new significance when a part of familiar and identifiable frames of reference and relevance. Being present in and around language rich contexts and interactions may be, in and of itself, equally as essential as being given the chance and challenged in producing and expressing language competencies. Expressive language skills are thereby, representative of complex learning developments that occur both in relation to and dependent upon environmental stimuli. Many factors contribute to the makeup and provision of rich language circumstances, such as variations in demographic or cultural elements that may be both advantages and disadvantages to oral language practices and outcomes. Implications for how parental education and shared book reading in home settings, along with staff-child interactions and guidance, in addition to book reading, have been considered as focal points of interest when considering early vocabulary developments that take place.

# 3   Methods

Approaches for investigating and describing the interactions in Norwegian home and preschool environments and the relationship these may have to early childhood vocabulary developments are both relevant and meaningful. This chapter will be offering a better understanding of the choice of methodology behind the project BePro (The Better Provision for Norway's Children in Early Childhood Education and Care) in addition to how information and results were gathered and data is used in this dissertation. Beginning with an outline of the project's purpose and participants, it will commence with an overview of the assessment tools and research design followed by a description of the underlying quantitative qualities.

Empirical studies such as BePro are dependent upon a conscience selection of what the most ideal methodologic design would be for the questions being asked and the reality that will be studied.  Differences in the reliability of test instruments, the selection of the test group and its size, and how the assessment occurs, can produce differing outcomes on the end results and influence conclusions that are drawn. It is therefore imperative that new knowledge is contextual and dependent upon an explanation of both the research process and the possible ways of understanding the data collected (Alvesson & Sköldberg, 2009).

## 3.1   Methodological approach

Being as this paper is in cooperation with the research project BePro and the data it has collected, it is necessary to first understand the reasoning behind their observations and assessments, in addition to the selection of data for this thesis.  BePro is a longitudinal study hoping to assess and better understand the relationships between a child´s development, well-being, play and learning and how this can be formed by the structures and relations in the home and preschool environments.  Through differing methods of data collection in both the preschool and home environments, at the age of 2,8 to 3,3 years and later before the start of primary school, BePro is hoping to characterize what a good preschool is and what factors can influence a preschoolers development and achievements. The aim is to measure these developments based upon cognitive and social-emotional assessments that were controlled by possible differences found in their home environments and parental qualities (BePro, 2015).

A quality preschool environment was defined and assessed as multi-dimensional in nature and the characteristics represented were related to the standards in the structures, processes, relations and content that was observed and assessed. These dimensions are representative for the level of quality BePro has studied and evaluated in the various preschool environments, as well as the outcomes it has measured (Bjørnestad, Gulbrandsen, Johansson, Os, 2013). The objective for analyzing the level of quality in Norwegian preschool environments was generated by inquires such as the relevance a classrooms structure and organization can have for a child's well-being and social, emotional and cognitive developments. Are there tendencies that can be found that can characterize positive and conflicting qualities within Norwegian preschools, in addition to tendencies found in preschoolers' development and learning processes? Moreover, BePro has endeavored to develop a research based tool for evaluations of preschool quality that can be later used in preschools and county services in a Norwegian context (Bjørnestad et al., 2013).

This thesis has focused on a more narrow approach to the data that has been gathered within the preschool and home environments by choosing to examine the expressive language skills of the preschoolers assessed, when compared to differing language related practices in the home and preschool environments. These practices, as previously mentioned, are the frequencies and effects of the staff's ability to guide preschoolers in their use and understanding of language, along with the use of books in a preschool setting. Home learning practices were evaluated by the possible repercussions of parental education levels and the frequencies of shared book reading might have for the oral vocabulary results of the preschoolers assessed. Based upon previous research, these particular elements were selected from the assessment tools BePro used, as the most likely predictive factors for differences within language outcomes in the observations and results collected. These items were also selected based upon theoretic understandings of how language developments occur and how a child's language abilities can be influenced by environmental implications. According to Norwegian law, preschool environments have responsibility to "provide a rich and varied language environment" where all children experience "the use of language as a means of communication is a tool for reflection as well as a way of expressing their own thoughts and feelings" (Barnehageloven 2.5, 2012). Suggested means of implementation are through the use of teacher to child conversations, reading aloud and language and text focused activities. The elements selected have attempted to reflect what findings this analyses can represent of the standards and practices followed in the preschool settings in our sample group.

## 3.2  Participants

From a methodological perspective, it is evident that the correlations found within the language practices in preschool and home learning environments, are primarily a representation of those that have participated and the inferences that can be drawn (Kleven, Tveit, & Hjardemaal, 2011).  The process in which preschools have been selected, the children that have participated and the tools used for assessments, can therefore be imperative for the conclusions that are reflected in this thesis. Being able to be concise about the approach used in how preschools and participants became connected to BePro can increase the likelihood for better understanding the results that have been gathered.  This can also strengthen the probability that the concepts we are attempting to evaluate, in this case expressive vocabulary, are represented appropriately by the indicators.

The accumulation process in this project was based upon several components and resulted in a sample group of 1218 preschoolers from five differing regions in Norway. Ideally, the optimal case would be that all Norwegian children at the same age would have equal chances to be participants to be assessed, however, geographic and economic limitations have condensed the study from being universal to having a particular representation of preschool children in focus.  Even within this sample size, it would be ideal for all children within the Norwegian preschools to have equal opportunities to be selected and assessed.  Nevertheless, this thesis has chosen to focus on the results gathered from the first assessments made at the age of 2,8 years, with an allowance of up to 3,3 years of age.

The amount of time and resources at the projects allowance, made it insurmountable to give the opportunity to all preschoolers in Norway to participate.  The preschools that participated were therefore within relative proximity to the institutions participating in the BePro project, and included preschools from Oslo and Akershus, Vestfold, Rogaland and Tromsø regions, in addition to Bodø.  Even if those participating may reflect only particular tendencies within the sample group of preschoolers, this group contains a variation of both urban and rural areas, from the differing regions, additionally also exhibiting both private and public ownership. The original estimation of participants was 1600 children. Based upon this number, the preschools were chosen from a universal list (Pedlex) which included an overview and number of children, classes and locations. The end result concluded with a list of 92 preschools; 38 within Oslo and Akershus, 22 in Vestfold and Telemark, 18 in Rogaland, 10 in Nordland and 4 in Tromsø.  The selection of participants has therefore been consciously as random as

possible, so that this may reflect a more reliable depiction of tendencies within Norwegian preschools. These preschools were then contacted and informed about BePro and given the possibility to cooperate if desired. Quality of the data acquired, can in a degree, also be determined by the ethical conditions that have been considered in the process of recruiting participants. Preschools have been informed, in the best way possible, of the procedures and tools that will be used and how the assessments will take place in advance, along with establishing consent agreement that is signed by both staff and parents. Recruiting and signing of consent forms took place through and in cooperation with the individual preschools and their staff. Conscious efforts have been made to give researchers within BePro a high degree of flexibility, within the boundaries allowed by the participants and information provided (Bjørnestad et al., 2013). These guidelines included, but were not limited to, the protection of the identity of participants and the informing and sensitivity to the desires of parents and staff in observation and interview situations. Moreover, as the study has its focus on children, a group that is especially vulnerable, great care was emphasized and taken when establishing routines for especially British Ability Scale 3 assessment situations. In this way, numbers of missing participants or low scores can be representative of children that have expressed a desire to not participate or have shown discomfort or behaviors that were considered grounds for terminating the assessment by the researcher or data collector.

The data consolidated in this thesis will be including what early expressive skills reflect of the qualities in preschool and home environments. It was similarly meaningful to investigate and assess what might be most representative of early vocabulary abilities. As a result, it was determined that those approaching the transition from the toddler group to the preschool age group were an appropriate target group. This transition also marked a modification in fewer staff and a greater number of preschoolers. Assessing the participating children before this transition occurred would thus give a more accurate reflection of the tendencies found in a toddlers' early preschool exposure and the characteristics that could be influential for early language developments. This transition is often determined in Norwegian preschools both by economic capacities, how age is defined (for example from 1. January), along with the need for staff attention that may be necessary for the individual child. Resources were most likely a decisive factor, as this target group is found to represent 206 differing classrooms that are representative of the 92 preschools participating. With this in mind, it was conjointly determined that the optimal age to implement assessments was also to be between the ages of 2,8 to 3,3 years. While age can be seen to be suggestive of rapid growth and developments

that occur, especially in early oral language, the exact ages of the individuals participating were not examined or included in this analysis and can be later investigated as a possible limitation being that this factor is considered, but was not controlled. The age group of 2,8 to 3,3 years is conventional since it was fitting for the instruments that were to be used for assessing language abilities, in this case BAS3 (British Ability Scale) that is suited for ages 3-7 years, but was adjusted to the specific target group in BePro (2,8-3,3 years). These adjustments and use of normative scoring are further explained below.

Together with the locations, age and collection procedures, there are other characteristics within this sample group that may be of interest for later use and analyses. One particular area of interest that this thesis will be analyzing is how vocabulary outcomes may correlate to parental education levels of the children participating. An overview of descriptive statistics shown in Table 1 gives insight as to how education levels for mothers and fathers were found to be distributed. Maternal education levels (N = 1078) and paternal education levels (N = 1058) were categorized as nominal variables with completed primary education as 0, high school education with career specialization as 1, high school with study specialization as 2, bachelor degree as 3, master degree education as 4, and other education levels as 5.

These descriptions reveal that the majority of participants reported having education at a bachelor degree level or higher, with very few not completing high schools with a form of career specialization or specialization for general studies. In that the majority of this sample group is represented by having higher education, it can be meaningful to understand how this may have implications for participants and the relations that may be found between vocabulary outcomes and parental education. The category entitled "other" was also represented in greater degree by fathers than mothers, but remains unspecified as to what this may include. Some possible predictions are that this category entails parents that have chosen entrepreneur career paths that are exclusive to traditional education or have attained a higher degree than a master.

Table 1

*Description of parental education levels in valid percent*

| Completed education level | Primary school | High school with profession specialization | High school with study specialization | Bachelor degree | Master degree | Other |
|---|---|---|---|---|---|---|
| Mother's education levels | 3,2 % | 9,6% | 9,6% | 46,3% | 28,1% | 3,3% |
| Father's education levels | 3,8% | 22,1 % | 8,8% | 30,8 % | 30,3% | 4,2 % |

As language or vocabulary outcomes are essential to this thesis, it was also of interest to note which of the participants may be from homes that are multilingual or descriptive of minority backgrounds, as this could be influential for language developments and parent-child interactions that these participants are a part of. Although the amount of participants that spoke another language in their home environment than Norwegian was uncertain, it was found (as shown in Table 2) that nearly one quarter of the participants had parents that had migrated to Norway or were born outside of Norway. This could be representative of a very diverse language population, as this does not distinguish between parents that may use a similar Scandinavian language or be migrating from a more distant and linguistically contrastive country of origin.

Table 2

*Description of parental ethnic background*

| | Frequency | Percentage |
|---|---|---|
| Born in Norway | 819 | 67,2% |
| Born outside of Norway | 264 | 21,7% |
| Missing | 135 | 11,1% |
| Total | 1218 | 100% |

This is not neither a direct indicator of which language may be spoken within the home environments, but can be assumed that this could imply that there is a representation of participants that may have other challenges in language developments that can have ramifications on their vocabulary outcomes. It could be of interest to further investigate the

variation within the participants with minority background, such as which countries they are coming from, what language is spoken at home, and the age in which they immigrated to Norway.

The selection process of the differing preschools and families that have participated, the age that characterizes the children participating and represented in this thesis, and the locations and possible implications this may result in, have been taken into consideration. In avoiding chances for bias or random errors in the outcomes, the selection has allowed for proportionate opportunities for preschoolers within the given age group to be depicted. Equally valuable in understanding those participating are the manner in which these selections took place and which alternative factors may have ramifications for the type of data that is collected.

## 3.3 Assessment tools

Initially this thesis introduced a theoretical foundation and previous research results that exemplify pedagogical representations and understandings of oral language development in the early preschool years, including the environments this can occur within and be influenced by. In educational research and within the social sciences, phenomenon is often derived from theory and conceptualizes how abstract concepts and knowledge can be related to correlating indicators that can be measured (DeVellis, 2012). Thus measurement procedures can pose a variety of shortcomings and strengths as researchers attempt to correlate appropriate relationships between constructs and the indicators that are created to represent such concepts. If scientific theory's function is to describe, explain and predict, pedagogic research findings should contribute to analyzing the characteristics that can be found within pedagogic practice and if these confirm our explanations and descriptions that have been made (Dale, 2005).

The choice of assessment tools has been mainly in cooperation with a similar study that has taken place in Great Britain, known as Effective Provision of Pre-School Education study (EPPE). This selection included both the use of British Ability Scale (BAS3) and Infant/Toddler Environment Rating Scale- Revised (ITERS-R). These instruments are used as assessments tools to measure variables within the preschool environments and individual vocabulary skills of the children participating. As a control for the alternative factors outside of preschool contributions that can also be predictive for the vocabulary results found through BePro, a parent interview has also been conducted. This is relevant for evaluating the qualities

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in the family and home relations. The interview outline used was translated and developed based upon the one that the BePro study chose to create and focuses on information relating to the child's background, family activities, and demographic data that is representative of the family´s social background (Bjørnestad et al., 2013). As described previously, BAS3 is a central tool for the purpose of this thesis, as it contributes to investigating and understanding vocabulary abilities and variations that can be in preschool children at around the age of 3 years.

### 3.3.1 Assessing vocabulary skills (BAS3)

The assessment tools selected emphasize such factors within the pedagogic practices in the 92 preschools participating in BePro. As vocabulary acquisition is the learning activity of interest, focus on the outcomes from a naming vocabulary assessment was selected and is measured through the use of British Ability Scale (BAS3). The British Ability Scale is a battery of individually administered tests of cognitive abilities and educational achievements that provides a comprehensive and flexible means for assessing aspects of a child's current intellectual functioning (Elliot, 2011). The Early Years Battery covers six ability measures within verbal comprehension, picture similarities, naming vocabulary, pattern construction, matrices, and copying tasks for children ages 3:00 to 5:11. When administrated in its entirety, the whole of these scores can also be calculated for evaluating a child's individual ability scores or converted to an ability score that is normative for their age range. This allows for the BAS3 to be administrated both as individual tasks for evaluating, but also as a composite score that can reflect the strengths and weaknesses of the child compared to the normative sample within the differing tasks. BAS3 is said to be a flexible tool, allowing for accurate assessments of both gifted, but also developmentally delayed children, since the sequence can be modified and varies from simple to more complex questions (Elliot, 2011).

The naming vocabulary task evaluates the level of expressive language or vocabulary knowledge in the individual child. This takes place by selecting the starting point on the scoring sheet that is appropriate for the age of the child and asking the child to name the item shown in the manual that corresponds to the answer on the test sheet (Elliot, 2011). The child is then given a score of 1 if correct or 0 if unable to answer or incorrect. This is based more upon content than the form of response, so responses should not be scored as incorrect because of grammatical or pronunciation errors. After a number of items, there comes a

decision point where the administrator evaluates the number of errors and proceeds if there are less than 3 incorrect answers and stops if there are more than 3 incorrect. On the naming vocabulary test, the administrator should also stop if they experience that the child has had five consecutive failures or is unable to identify the last five objects (Elliot, 2011). The decision point then gives the administrator three options which are to terminate the assessment, continue by showing more difficult items, or going back and administrating easier items from an earlier starting point. When administrating with BePro, the execution of the task was adjusted and it was decided to start with the earliest starting point based primarily upon the age of the children participating, and that the administrator would stop after 5 incorrect answers. This accommodation was made of ethical reasons, such that participants would not be challenged beyond ethical and reasonable boundaries, as well as allowing the administrator to exhibit sensitivity in contact with the participants. This was also chosen, being as it was not certain that those participating as administrators were test certified and able to assess how to use and evaluate a child in a psychometric test situation. Simplifying the test procedure, therefore, was a more secure method for gaining valid results. With regards to the choice of international assessment tools, it was decided to launch a trial run in several preschools and found that the translated version functioned well in a Norwegian context, despite a few small adjustments that were later made (Bjørnestad et al., 2013).

Adjustments were also made when considering the methods used for scoring vocabulary assessments in comparison to what is standard for BAS3. Firstly, raw scores were considered to show possibilities for producing a chance for skewedness in individual scores. It is assumed, for example, that the children that perform poorly or average could possibly score better, if given the chance to continue regardless of the score gained at a decision point. In this way, results could show a certain bias and "penalize" the individuals that scored average or poorly, by giving them fewer chances to answer additional questions if they were unable to continue past a decision point. In this way, standardizing raw scores corrects or balances the probability for skewedness that may be produced by the assessment tool (BAS3).

Additionally, being that BAS3 is standardized according to a normative group of British children, it was necessary to keep in mind that the adjusted or converted standardized scores from the BAS3 ability scores are normative scores that are representative of the children from BePro's sample group compared to a UK frame of reference. This Early Years battery is representative and standardized according to children from the age of 3 years of age, from

differing regions in the UK and from differing demographic backgrounds. The use of standardized scores and conversion from raw scores to ability scores will be later addressed when discussing the quality of data and reliability of BAS3. Hence, vocabulary outcomes in themselves are operationalized in a way that can seem to be complex and representative of alternative factors than naming or vocabulary skills.

### 3.3.2 Assessing the home learning environment (parent interview)

This thesis is interested in how a child's vocabulary knowledge and expressive abilities on the naming activity within BAS3 can correlate to a parent's educational background and tendencies to incorporate shared book reading in the home. As a control for the other factors outside of preschool classrooms that can be predictive for vocabulary developments, a parent interview via telephone has also been conducted to investigate how factors in the home can provide support for a child's language development. Educational background and shared book reading are two of the questions chosen to be investigated for possible relationships that may be present.

The question posed regarding book reading was rated on a yes or no scale, in addition to the frequency in which this occurs. These frequencies were categorized as occurring on a basis of seldom, once a week, multiple times a week, every day or multiple times in a day. These were recorded as nominal variables and are later shown in valid percentages in Table 3. Parental educational background was evaluated based upon the highest level of education completed for both the mother and father. The degrees of variation were differentiated and included in the description of participants (Table 1), categorized as completion of primary school, high school education with career specialization, high school education with study specialization, bachelor degree education, master degree, or other. Whilst this interview in its entirety included 44 questions, this thesis chose to focus on the two aspects based upon previously mentioned theoretical foundations and research to be investigated within a Norwegian context and the participating preschools in the BePro project.

### 3.3.3 Assessing the preschool learning environment (ITERS-R)

The instrument that will be representing qualities and routines in the preschool environment in this thesis is the Infant/Toddler Environment Rating Scale (ITERS-R). This observational tool uses a scale designed to assess preschool classrooms according to grounded views of the

dimensions within classrooms that provide high quality support for children's social, emotional and intellectual development (Dickinson, 2006). The target group that is prioritized in ITERS-R is children from birth to 30 months of age, and is therefore more appropriate for the qualities observed in early age classroom settings than the age of the children participating in BePro. The factors analyzed are especially indicative of the physical environment and interactions that take place. In this way, ITERS-R is comprised of 39 items divided among seven categories that assess how the environment provides protection for the children´s health and safety, stimulation through language and activities, and supportive interactions (Harms, Cryer, & Clifford, 2006).

The requirements within ITERS-R are based upon items that research evidence and professionals within health, development, and education deem as conditions for positive outcomes, both while the child is attending and afterwards. This scale is rated by a trained observer that partakes in the classroom setting and uses items under each category to be noted or give a score of observations and activities taking place. These observations are then scored as "Yes" (if the indicator is observed) or "No" (if not observed). According to the amount of items observed or marked as "Yes", there is a scale or scoring system that indicates the item quality level consistent with the factors being scored. When calculated, on observation period or classroom is then given a score on a scale of 1 to 7, with 1 representing poor or inadequate qualities, 3 being minimal observed items, 5 as a good representation of the qualities listed, and 7 representing excellent or optimal representations of the desired indicators. The intention is to obtain a score that can give a comprehensive evaluation of the structure and tendencies that take place within the preschool program, independent of individual children or employees (Os & Bjørnestad, 2016). This can be both an advantage and disadvantage in that "quality" can be a complex and diverse phenomena, representing varying views of what quality preschool environments are and how they are practiced. In this way, ITERS-R represents a rather objective understanding of quality in preschool settings, by establishing concrete categories and criteria to perspectives defining quality preschool situations. This is, therefore a tool that can give insight into objective and universal criteria of certain items, but may lack descriptive characteristics that could better evaluate the scores obtained in ITERS-R (Dickinson, 2006).

As this thesis is evaluating the oral language outcomes of the children from these same preschools, it was of interest to investigate if there are any particular language practices or

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how the quality of these may correlate to the expressive abilities assessed. It has therefore been the category labeled "listening and talking" that was of greatest significance. The three indicators that were observed and scored were qualities within 1) helping children to understand language 2) helping children to use language and 3) the use of books. Within the item "helping children to understand language" the most optimal or best quality practices entailed staff using a wide range of simple, exact words when communicating with the children, participation in verbal play, and the use of differing and expressive topics in conversations (Harms, Cryer, & Clifford, 2006). This differs from the most inadequate scores (score of 1) that involve little or no conversation between staff and children, high volume levels in the classroom, and unpleasant tones of voice or negative feedback from the staff to the children. When observing for qualities under "helping children to use language," noticeable factors that are deemed inadequate (or score of 1) are staff giving little or no positive response to children´s attempts to communicate through gestures, sounds or words. In contrast, qualities such as staff asking children simple questions, having turn-taking conversations with the children and responding in a timely and positive manner to children´s attempts to communicate are all regarded as positive or high scoring practices (score of 7). The last item "the use of books," scores accessibility to books in the classroom and the amount of adult-child reading in daily routines as high scoring activities, while lack of book availability and no use of shared book reading is noticeable. As mentioned, such nuances can be objective and quite concrete when considering the correlations this thesis will be investigating and have implications that are both an advantage and disadvantage (Harms, Cryer, & Clifford, 2006). However, based upon earlier research and available theory, it is such early language practices that can have significance for vocabulary outcomes, and this is the tentative theoretical background that will be attempted to operationalize. What are the frequencies of early language activities, such as staff and child conversations and shared book reading in preschool settings and what is the quality found in these practices? Do these practices, or lack of, have any consequences for the expressive skills and vocabulary knowledge of the 3 year olds participating, or are there other alternative factors that can better explain the differences in ability?

## 3.4    Research design

Research and theoretical constructs within pedagogy and other social sciences can be described as tending to focus on a circumscribed phenomenon in a narrow range of human

experience. This differs from physical science in that this research can work towards grand unified theories that grasp fundamental forces of nature within a single conceptual framework. Therefore, measuring elusive, intangible phenomena adopted from various, evolving theories can pose a clear challenge within pedagogic and social research (DeVellis, 2012) Understanding how the process in which valid knowledge is established within educational research can clearly secure a better premise for constructing and evaluating credible research design in this thesis. Klaus Mollenhaur describes a critical distinction within empiric methodology by differentiating between pedagogic research and research taking place within educational science (Dale, 2005). Pedagogy is first and foremost, defined as practical recommendations whereas educational research is connected to theoretic, objective statements. A reflection of reality is therefore validated in a pragmatic and ontologic choice of foundational theory and framework (Dale, 2005).

This thesis is quantitative of nature, considering that the data collection and assessment tools are more appropriate for hypothesis testing then generation (Lund,2012). This approach allows for greater advantages in objectivity and generalizability, by allowing numerical results to confirm or invalidate our assumptions of which factors can have impacts on vocabulary developments in early childhood. These assumptions are thereby tested by the use of a non-experimental correlations study, in hopes of obtaining information on reality as it is at present, and possibly describing the existence of significant or not significant effects on expressive vocabulary (DeVillis, 2012). A non-experimental study can be helpful as a descriptive and analytical design for the results that have been gathered thus far in the BePro project. This was best suited to the structured and externally focused data collection methods and sample size.

## 3.5   Quality of the data

As all choices within methodology, the choice of design contains its strengths and weaknesses. It is imperative to understand these so that the assessments that are collected and the ways in which we interpret them contain as little room for error as possible, since one of the main tasks within research is to provide an accurate reflection of the questions and realities we are hoping to understand (DeVillis, 2012). Measurement and the possibility for error are therefore, crucial when understanding the limitations and strengths of both this

analyses and all research. Two terms especially relevant when evaluating research quality are reliability and validity.

## 3.5.1 Reliability

Being able to state that the scores a scale yields are representing some true state of the variable being assessed, is of great importance when presenting data results. Reliability is thus, understood as how consistent an instrument is in performing in systematic and predictable ways. This implies that a reliable scale is one that an instrument produces and is not changed unless changes are made to the variable itself. Unfortunately, this is a challenging and seldom achievable goal. It is, however, possible to gauge how close to the approximate true score an instrument is able to measure, and how little it reflects other outlying factors (DeVillis, 2012). Reliability within a scale is then the variance in an observed score that can be attributed to the true score of the variable being assessed. It, furthermore, confronts the consistency of such descriptions and interpretations over time (Bruhn-Jensen, 2002). Measuring the consistency of the assessment tools or scales used can be thus critical for later results.

ITERS-R has measured both item reliability and overall internal consistency, as it is possible to gain a high indicator score (such as 7), but nevertheless have low scores on individual items. As this thesis has chosen three individual items within the subscale or category of "listening and talking," it could be most relevant to understand the reliability that has been found here. When examining the scale for internal consistency, the Cronbach's alpha was found to be .79. As a Cronbach alpha of .6 and higher is generally considered to be representative of acceptable levels of internal consistency, this indicates a high measure of confidence that the subscale is being measured and shows consistency (Harms, Cryer, & Clifford, 2006).

Unfortunately little data was found surrounding the internal consistency and construct validity of the BAS3 scale. It is reported as being a reliable scale, but factor analysis details were not provided. The American revised version of the BAS scale, also known as DAS, consisted of 20 subtests measuring also testing verbal and non-verbal abilities. The reliability for this scale were found to be fairly comparable with other psychometric scales (such as Wechsler) and revealed to have a test retest reliability of .90 and an inter-rater reliability that required subjective judgement in the .90 range (Domino & Domino, 2006). Although these reliability

findings are indicative of both another sample group and scale, it can give insight as to the confidence that could be possible for the BAS3 scale as their similarities are quite plausible.

### 3.5.2 Validity

Choice of methodology and instrument reliability alone cannot ensure that the kinds of inferences drawn are relevant to the questions asked. Lund (2012) underlines this distinction by using the term validity to refer to the approximate truth of an inference. The meaning or interpretations of a score are as equally crucial as the kind of data that is used as a foundation for such inferences (Kleven, 2008). Validity is consequently, rooted in a rational discussion of alternative interpretations and if a tendency can be considered trivial or worthy of an interpretation. Types of validity to be aware of in this analyses, is internal validity, which attempts to define the validity of inferences from an observed covariation to a causal interpretation (Kleven, 2008).

Using a non-experimental design, or a passive observation design, one aspires to study a particular phenomenon as it is without the researcher manipulating or influencing outside factors. This will automatically be a disadvantage to the internal validity of the non-experimental design when one is unable to have experimental control by controlling and manipulating when forming conclusions. A causal relationship or correlation can be difficult to explain or give reasoning when the possibility for other factors has not been excluded through the use of some form of control. Since it is difficult to form secure conclusions when using this design, a way of ensuring validity is by evaluating alternative reasoning and interpretations of the results found (Kleven, 2011). A possible solution is by using statistic control in the form of multiple regressions to create a better balance for the lack of experimental control and better the chances of internal validity. Kleven (2011) explains that low internal validity can be said to verify better external validity in the non-experimental design. The advantages of a large research survey or external validity can, however, be explained rather as a result of the selection process and not necessarily as a direct result of the design type in use, even if this design has strong limitations on what certainties can be found. Nonetheless, even though a correlation or uncertain inferences cannot prove or validate a statement, it is possible to discover and rationally discuss hidden variables or alternative interpretations for the results found (Kleven, 2011). In this case, we have chosen to rely on

similar studies that have taken place previously and how this might also reflect similar or differing results.

# 4    Results

Analysis of the data from Better Provision for Norway's Children in Early Childhood Education and Care (BePro) project generated sets of results pertaining to the home learning environments and preschool learning environments participating and five factors that were chosen to represent the language practices and if these were in fact supporting vocabulary developments in these environments. The differing factors were measured by three selected instruments previously described and results of evaluations within the differing environments have been weighed up against the scores accumulated on a vocabulary assessment task (BAS3).

## 4.1    Home learning environments

An examination of the measures of the home environments shows that there were minimal amounts of variation in the use of language related practices, which in this case is shared book reading, and almost equal amounts when considering variations across families and the amount of education in comparison to individual ability scores. With the exception of three participants, all other parents, regardless of differing socio-economic background factors, agreed that they participated in shared book reading in the home.

Little, but some variation was found in the descriptive statistics (Table 3) surrounding the frequency in which shared book reading takes place, in contrast to parental educational levels (Table 1). This may nonetheless be points of interest when determining what possible relationships this may have to the vocabulary outcomes that were measured at age 3.

First off, paternal education levels showed the greatest amount of variation or largest differences, with a majority having bachelor (30,8 %) or master education (30,3%), but also a fairly large representation within high school education with career specialization (22,1%). This fluctuation in distribution is, however, not found to be present in or significant for the vocabulary scores that were found.

 In comparison, maternal educational levels were slightly more stable and also having an average educational level that was overrepresented within the bachelor and master degree levels.  There were also fewer mothers found to have only completed primary school than fathers, although this difference is minimal. As presented, it appears that maternal education

levels were found to be slightly higher and more consistent in their spread than the paternal educational levels in this study. A father's education level was, however, found to be more varied, with a greater percentage represented both within completing high school with a career specialization and a master's degree.  It is also unknown what the informants that answered "other" may have insinuated, and if this could be categorized as additional or alternative education levels beyond a master (PhD or otherwise), there is a slightly higher percentage of father's that have attained such.  Maternal education levels can, thus be described as being more likely to be characterized by higher education levels, whereas paternal education is found to be more diverse in its proportions.

Secondly, although the majority of parents agreed that they read at home together with their child, there was some variation in the frequency in which this occurred.  Shared book reading between a parent and child was found to be practiced most frequently on a daily basis.

Table 3

*Descriptive statistics of frequency of parent-child shared book reading*

|  | Frequency | Valid Percent |
|---|---|---|
| Seldom | 17 | 1,6 |
| Once a week | 33 | 3,1 |
| Multiple times a week | 247 | 22,9 |
| Every day | 636 | 59,1 |
| More than once a day | 144 | 13,4 |
| Total | 1077 | 88,4 |

It is also unclear what has been described as "multiple times a week" and that many parents might agree efforts to read every day can in some cases fall short, and thus answered differently if given the choice. Regardless, we have found that there is an overwhelming majority that practice shared book reading together with their child frequently, and most often, on a daily basis.

The primary focus of this thesis is the size of differences in individual ability scores.  With a total possible score of 149, the greatest number of children averaged at a score of around 94, with the lowest scoring at 10 and the highest at 149. This variation is of most interest in and presents a complex range of explanations.  For this reason, we have chosen to limit this research to two variables that were present in the home environment and possibly influential

in language practices in the home learning environments, in combination to three variables observed in the preschool learning environments, along with potential relationships and explanations these may give as to variations in ability scores.

## 4.1.1 Relations between parental education and young children's vocabulary learning

Parental education levels are found to be positively related to the measured vocabulary skills in the naming task of the BAS3 ability scale shown in Table 4. As expected, maternal education, although weak, revealed to have the greatest positive finding of ability outcomes in vocabulary naming (r =.179, p < .01). This would go to say that that an increase or higher level of mother's education has positive effects on children's vocabulary skills, even though this relationship may be weak. As reflected in chapter 2, previous research has shown that maternal education has received considerable focus and is commonly an indicator of a child's language input in home environments.

Table 4

*Correlations between parental education and vocabulary outcomes*

|  | Ability scores- Individual scores on BAS-III naming task | Mothers education level | Fathers education level |
|---|---|---|---|
| Mothers education level | .179** | — | — |
| Fathers education level | .099** | .405** | — |

 **p < .01 (2-tailed)

If these reflections from previous studies are indeed true, this positive correlation may also be based upon the fact that mothers overrepresented father's when taking into consideration maternal levels of higher education, and that this may have been influential for a child's individual ability scores. Paternal education has also been included in this analysis and has been found to, although small, present a positive correlation to a child's vocabulary outcomes (*r* =.099, *p* <.01). It was also found that parental education levels were predictive of one another (*r* =.405, *p* <.01) meaning that home learning environments containing maternal or

paternal higher education, are most likely indicative of an environment where parental education is present on a whole. This may not be a very surprising find as the majority of participants, as described in Table 1, reported having education at a bachelor degree level or higher (father's higher education levels = 61,1 %, mother's higher education levels = 74,4%). While this assumption has not been controlled to reveal if higher levels of education are related to other qualities such as a child's age, correlations between parental education and vocabulary outcomes are found to be positive in this sample group. With a large size sample group (in this case, $N = 1078$), it is not uncommon to experience that correlation coefficients can reach statistical significance even when quite small.

### 4.1.2  Relations between parent-child book reading and vocabulary learning

In likeness to educational levels, relations between shared book reading between parent and child and a child's vocabulary outcomes on the naming task of the BAS3 was found to also have a positive relation. Shared book reading was found to have a positive correlation to the ability score a child received in relation to their expressive vocabulary skills ($r = .162$, $p <$ .01). This was only relevant when examining the frequency in which shared book reading takes place and not if this practice takes place.  This is most likely due to the fact that all participants, with the exception of three, replied that they read books at home with their children. If shared book reading takes place in the home learning environments within the sample group investigated is of very little interest, due to the fact that so many participants were simultaneously in agreement that this is a practice relatively all children engage in.

Parents reported variations in the amount of shared book reading that takes place.  The majority of parents (59 %) indicated that they read together with their children every day. A lower percentage (23%) practiced shared book reading multiple times a week, whereas smaller percentages read more than once a day (13,4%), once a week (3%), or seldom (1,6%). Such variations reveal that there are differences in how this practice takes place in differing home learning environments, but that the overall tendency in this sample group tends to be that parents are involved in shared book reading with their children on a daily basis and that this practice has a positive relation to their children's expressive vocabulary outcomes.

## 4.2    Preschool learning environments

Preschool learning environments were represented through observations of the interactions taking place between staff and preschoolers in the form of guidance in understanding language, using language and use of books and shared reading in the classroom.  These were scored according to a scale of 1 to 7, with 7 representing the optimal qualities that could be found in preschool learning environments. Present in this sample group and as shown in table 7, the preschool environments observed tended to score best in staff helping children to use language.  According to this rating, preschool classrooms in this sample group were scored as having staff that were positive and responsive to the preschoolers attempts to communicate and engaging in turn-taking conversations that contained a relatively good balance between talking and listening.

Table 5

*Descriptive statistics of preschool learning environments (ITERS-R)*

| N= 1192 | Helping children understand language | Helping children use language | Use of books and shared-book reading |
|---|---|---|---|
| Mean | 5,02 | 5,06 | 3,21 |
| Mode | 4 | 7 | 1 |
| Standard deviation | 1,504 | 1,698 | 1,964 |

Observations also show that preschool environments scored slightly lower or just above minimal when scoring on staff helping children to understand language. According to ITERS-R scale, preschool staff used talk that was meaningful to the children, their verbal communication was personalized, and they usually used simple and descriptive words for objects or actions. Of the three variables investigated that represented language practices in the preschool learning environments, the use of books and shared book reading was least present. The preschool environments represented were found to have minimal to inadequate availability of books and the involvement of shared book reading occurred at best, once a day or when children were interested (mean = 3,21, median = 3,00, mode = 1).  This practice was also the one that showed greatest variation with a standard deviation of 1,964, which would say that the tendency found in most classrooms relating to book reading was relatively lower when comparing to the scores preschool classrooms received as a whole. The spread in the scores for shared book reading could convey that the classrooms represented larger

differences in their practices and use of shared book reading and book availability than found in the use of staff helping children use and understand language.

### 4.2.1 Relations between staff's guidance in a children's understanding of language and their vocabulary outcomes

Preschool observations of staff's ability to guide a child in their understanding of language was found to not be significant (r =-.012, p > .05). Negative correlations often represent a discrepancy between high scores shown in one variable and low scores found in the other. This negative Pearson correlation coefficient can be interpreted as staff's ability to guide a child's understanding of language does not increase their vocabulary outcomes. Associations can therefore be made in this sample that a staff's guidance has not shown to have significant positive correlations to a child's ability to perform on the naming task. While oral language developments seem to be unaffected by this practice as described by ITERS-R, other explanations could describe the discrepancies found, such as age and length of attendance for the individual child in the preschool environment. It could be relevant yet difficult to pose some questions on why or how vocabulary outcomes are not representative of staff's abilities to communicate with children in meaningful ways and using descriptive. This correlation analyses was unable to answer such questions, but a lack of significant outcomes in this reflects that vocabulary abilities are not directly related to characteristics such as staff's use of a wide range of simple, exact words when communicating with the children, participation in verbal play, and the use of differing and expressive topics in conversations.

### 4.2.2 Relations between staff's guidance in helping children's use language and their vocabulary outcomes

Findings in the relationship between a staff's guidance of preschoolers use of language and their expressive vocabulary skills on the BAS3 naming task, were found to be both weak and insignificant (r =.008, p >.05). In other words, the scores the children received on the naming task showed weak correlations or little changes when compared to the observations in the way or if staff asked children simple questions, had turn-taking conversations, and or responded in a timely and positive manner to children´s attempts to communicate.

As with staff's guidance in helping children understand language, guidance in helping children use language has not shown to have significant positive correlations to a child's

ability to perform on the naming task, which allows for questions regarding alternative explanations to the variations found in vocabulary skills.

### 4.2.3  Relations between a staff and children's shared book reading and their vocabulary outcomes

Relations found between a staff using books and participating in shared reading with children were found to be equally lacking in significance.  It was found that shared book reading had little to do with a child's expressive vocabulary skills score on the naming task (r =.033, p > .05).  It seems to be unlikely that the book reading practices in BePro preschool classrooms had a relationship to vocabulary outcomes as both Pearson's r and significance levels were so low, signifying that positive outcomes were most likely not related to one another.

Expressive vocabulary outcomes may not be, however, as simplistic as they appear here, as multiple alternative factors previously discussed, have not been controlled for and may further explain why relations between parental education and amounts of shared book reading seem to be representative for positive home learning environments and language developments. Correlation coefficient values in this case, represent limited outcomes for relationships found between group variables (ITERS-R) and their relation to individual ability scores (BAS3). This will be discussed further in the limitations represented in this thesis later on.

Nonetheless, one finding that has been of interest is the variations found in vocabulary scores and the significant contributions that a mother's educational level and shared book reading revealed.  Are variations in vocabulary outcomes equally as strong when controlled for maternal education levels and the frequency of home book reading?  A linear regression analyses was therefore created to contribute to understanding and comparing the relations that may describe the vocabulary outcomes and tendencies found in this sample group (Table 6). This analysis revealed that when all other variables are accounted for as constant, the frequency of shared book reading in the home environment was the most reliable contributor for positive ability scores within in the BAS3 naming task ($B$ = 3.909). This acknowledges that an increase in a parent's tendency to practice shared-reading of books by one level, would reflect an increase of 3.909 points on a child's vocabulary score. Book reading frequencies varied from occurring at a minimum, to seldom, once a week, multiple times a week, every

day and at the most, more than once a day. An increase in shared book reading at home was found to be predictive for an increase in vocabulary.

Unstandardized coefficient values (*B*) confirm the implications a mother's education level had for increases in ability scores within naming vocabulary (*B* =3.139). In likeness to parent-child book reading, when controlled for maternal education, an increase in one educational level contributed to a 3.139 point increase in vocabulary.

Table 6

*Summary of regression analyses of significant home environment variables predicting Individual ability scores*

| Variable | | | | |
|---|---|---|---|---|
| | N | Unstandardized Coefficients *(B)* | Standard error for unstandardized Coefficients *(SE B)* | Standardized coefficients (β) |
| Mothers education level | 1078 | 3.139 | .600 | .161 |
| Parent-child book reading | 1077 | 3.909 | .850 | .141 |
| $R^2$ | | .052 | | |
| *F* | | 27,768 | | |

Unstandardized coefficient values (*B*) also confirmed that reading practices in the home environments were the most reliable contributor for increases in ability scores within naming vocabulary. Since the sample group in this outcome was large (*N* = 1218), this secures a more precise estimate in the regressions parameters (*SE-B*) and allows for more accurate values. Nevertheless, since the scores in this regression analysis are based upon one period of assessment without a control group, the chance for standard error (*SE-B*) can be greater and can result in a prediction error more than estimation error.  These are all inferences to keep in mind that allow for alternative explanations of the outcomes in this analysis.

When investigating the variance that may be found and explain how the contributions of the individual variables in the home environments and these variables as a whole effected vocabulary outcomes, the R squared value (R $^{2)}$ revealed that these factors contribute to an

effect size of 5,2 %. This exhibits that when vocabulary outcomes were controlled for parental education levels and reading in the home, there remained a rather large amount of alternative factors that can also describe the possible contributors to the individual scores children received than those that were chosen here. The results gained reflect all the same values that expose variations and tendencies within children's vocabulary outcomes. Such variations and additional reflections will be further discussed in the following chapter.

# 5 Discussion and conclusion

This thesis has chosen to examine the expressive vocabulary skills of Norwegian preschool children at the age of 3 years, and how five differing variables in their preschool and home environments might reflect relationships to their individual ability scores. Theoretically, this study confirmed similar research that has highlighted the importance of the factors measured in the home and how this can be found in a child's oral language developments, especially in relation to a mother's educational background and the frequency and focus of shared book reading. Moreover differing elements in staff-child interactions within preschool classrooms along with strategies used in shared-book reading were considered, particularly in relation to the impact this has been shown to have on early vocabulary developments. Empirically this thesis has combined correlational and regression analysis to examine how similar variables to those discussed theoretically, were frequent in home and preschool environments and the extent to which these were related to early vocabulary outcomes. A key distinctive quality to this thesis was to define expressive language skills and furthermore emergent literacy skills, and investigate how the characteristics and processes found in Norwegian home and preschool environments might contribute to determining these skills.

## 5.1 Implications of home and preschool learning environments

The first major contribution to this work is that it provides evidence for how home environments can be beneficial contributors to expressive vocabulary outcomes from a very early age (3 years). Particularly the specific home learning environments featured in BePro identified that early and frequent exposure to shared book reading was a moderately significant correlating and most influential factor that was found to be associated to child´s vocabulary skills even when controlled for maternal education levels, although the difference between these factors was minimal. As Kim, Im & Kwon (2015) presented, variations in home learning environments tend to confirm that literacy-rich home environments can be associated with increases in vocabulary skills. It may be that children coming from homes characterized by mothers with higher education and frequent shared-book reading are reflective of learning environments where children experience more considerable opportunities to practice complex language focused interactions to a greater extent and partake in conversations with more diverse vocabulary (Hoff, 2006). Alternative explanations for the reasons to why higher levels of maternal education may be indicative of stronger

vocabulary skills can be that educational levels allow for greater awareness surrounding the language developments that occur in early childhood and which interactions can be beneficial for promoting these, such as Hart & Risley (1992) have previously described. When considering the levels of education measured, it is uncertain why there were such discrepancies in relation to maternal and paternal education levels other than tendencies that can be found in parental roles.  It can be assumed that, in most families, the mother continues to be the primary caregiver and accordingly spends a more extensive amount of time with a child than the father (Richels, Johnson, Walden, & Conture, 2013).  Moreover maternal higher education levels were found to be relatively higher than their paternal counterparts, reinstating speculations that both maternal roles and over representation of mother´s with higher education can be indirectly associated to increases in vocabulary measures.  This can be some explanation to why paternal education levels were found to be of little value to children´s vocabulary outcomes.

Additionally higher educational levels may imply an increase in family socioeconomic situations that can impose limitations or access to opportunities such as more exposure to books. Book exposure was on average, a practice that took place every day, but what does this frequency signify? In this case, it can be assumed that an increase in vocabulary abilities children demonstrated can possibly reflect an increase in shared-book reading in home environments.  These findings support what Rodriguez & Tamis-LeMonda´s (2011) presented by emphasizing how shared book reading exposes children to written language that in turn results in a promotion of children's early vocabulary acquisition. On the contrary, it is not only book availability and shared book reading in itself that is often described as predictive for vocabulary outcomes, but the quality of the parents' interactions with their children and that literacy rich home environments are representative of parents that engage in and value opportunities to practice complex language skills and diverse vocabulary both in conversation and through books.  These variations may be predictive of alternative factors that may show an even greater effect, such as demographic and cultural characteristics that have otherwise been found to be major contributors to variations in practices within home environments and parenting variables (Hoff, 2006).

Interestingly enough, preschool practices proved to be of minimal value to vocabulary outcomes.  Some variations in how preschool practices occurred can still be of interest for understanding tendencies in Norwegian preschool classrooms.  It was found, for example, that

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29% of the preschool classrooms observed, rated as having excellent practices in staff helping children to use language, which was both a percentage that surpassed the scores of the other practices. Cabell et al. (2015) described that educators that took initiative to engage in multi-turn conversations and use elicitations and extensions in conversation, were shown to be positive predictors of children's vocabulary growth. This finding was consistent with the descriptions that Tabors, Snow, & Dickinson (2001) provided as predictive for kindergarten language outcomes. Regardless of its lack of correlation to vocabulary outcomes found currently, this tendency could imply that, if used consistently, conversational interactions between staff and preschoolers that include use of rare-words, simple and situational questions, and balanced turn-taking could support positive vocabulary outcomes at a later age.

Another finding worth noting is the lack of relationship that was found between vocabulary abilities and staff's abilities to guide a child's understanding of language. It is possible that this is rather a representation of other factors that are indirectly related to children understand language in preschool settings, such as home learning factors or differences in age. It can in like manner be assumed that some of the elements rated on the ITERS-R scale surrounding staff-child interactions could be representative of interactions that are meaningful for other purposes than influences on the vocabulary naming task, such as the value of relational and environmental components. These findings are nevertheless, quite the contrary to the descriptions and associations Dickinson (2001) indicated as positive for language outcomes, such as staff's approaches to indicating interest, asking questions that encouraged children to clarify themselves, and commenting on a child's efforts. If it is indeed classroom qualities that are lacking, it can be presupposed that the results stated in this thesis could also reflect the same unfortunate findings reported by Dickinson, McCabe & Essex (2006); that instructional talk or guiding children by use of descriptive, context related communication is rare when considering low staff-child ratio and lack of educated staff. Seeing as these are dimensions of staff-child conversations that have not been investigated, it is at the moment, a relationship that remains uncertain and in need of alternative explanations.

Book availability and shared-book reading practices were found to be even less apparent, and relationships between this practice in preschool environments and vocabulary outcomes, were almost non-existent. It can be hypothesized that a lack of relationship to ability scores could represent multiple interpretations such as a lack of prioritizing and organizing shared book reading in the period observed or a lack of quality in the shared-reading that was observed.

One consideration that may be relevant is that the range of scores pertaining to book reading was quite divided from inadequate (28,7%) to good (23,9%), which may be consistent with Dickinson's (2001) reflection on the degree of variation in book reading practices found to be taking place on a daily basis in a preschool setting. These are tendencies that can only be speculated considering the variables in question and the instrument that was used to measure and observe classroom practices in BePro. Either way, shared book reading practices were not found to be relative to the variations found in vocabulary outcomes at this point in time.

Overall, the results reflected a consistency with the EPPE study by acknowledging that the quality of the relations that were found in the home learning environments showed stronger indications than other contributions studied. While the correlations found in this sample group have proven to be modest, it gives regardless, an inclination of which tendencies and factors can have implications on vocabulary developments in preschool and home environments, both direct and indirect.

## 5.2    Limitations and future research

The analysis of the data collected has its limitations that should be noted and considered when interpreting its findings. First, although the sample size was substantial and can secure for a more reliable results, other predictor variables that were not measured can account for the differences in children´s vocabulary abilities. The spread of the simple correlations between the selected home and preschool environment variables and vocabulary outcomes were modest especially when accounting for the overall effect size of the selected variables. This implies and may reflect the selection of rather specific and yet general factors that were chosen as representatives for vocabulary abilities in preschoolers at the age of 3 years. Although the selected practices and factors were based upon theoretical foundations of variables that can be of potential importance, these findings were unable to specify what qualities the practices or factors contained may in their essence describe and contribute to vocabulary outcomes. Results from the EPPE study exemplify that it is notably what parents do to support their children's learning as imperative and not necessarily who parents are (Sylva, Melhuish, Sammons, Siraj-Blatchford, Taggart, & Elliot, 2003). In this way, variations in vocabulary outcomes may describe strengths and weaknesses in individual scores according to alternative characteristics such as the lack of inclusion of age in months, language spoken in the home (as described in Table 2), or other learning and developmental

variations or difficulties. This also lacks precision as to the degree of staff-child ratios and if factors that were recounted by Farren et al. (2006) such as increased one-on-one interactions and staff qualities and education levels, are represented or lacking factors other than those presented in the ITERS-R scale.

Secondly, this thesis and its' empirical findings are based upon a non-experimental study that cannot specify or give a more diversified understanding of the implications the identified vocabulary scores may have for later language developments. This limits the understanding and confidence level that could be gained as to which of the variables selected could have positive or preventative implications for long term vocabulary gains or outcomes. Additionally, it is challenging to define which characteristics are operationalized when measuring vocabulary outcomes, as individual developments are complex and multifaceted. Since the instruments that were used for assessments are descriptive on both an individual and group level, presented as preschool classroom observations as opposed to individual vocabulary scores, it could be beneficial to analyze the results as a clustered data set (Howitt & Cramer, 2011). This would allow for a more accurate representation of how individual vocabulary outcomes are predictive of individual classroom variations.

In contrast, the multiple measures used were assessed by using previously reliable instruments that were administrated by trained examiners (ITERS-R), increasing the potential for more reliable indications of the correlational value the variables in question had to one another. This resulted in evidence that can define which environments are associated to providing consistent and moderate predictions of contributing factors to early vocabulary abilities. The results continue to be rather minimal as the described complexity of high-quality interactions and early language developments that take place, as well as the questions asked and instruments used for vocabulary and environmental assessments, were quite restrictive. In spite of these limitations, this analysis allowed for some concrete estimations surrounding what could be significant in developments thus far according to the five variables selected and in what way previous research corresponds to the Norwegian context.

## 5.3 Conclusion

Variations found in preschool vocabulary outcomes in relation to home and preschool learning environments gave only modest correlations, yet a few significant associations

favored the positive impact of high maternal education levels and shared book reading in the home. In this case, home environments were found to be the strongest and most consistent predictor of a child's vocabulary abilities at the age of 3 years. The question still remains as to whether these findings describe discrepancies in preschool practices when related to emerging language and literacy developments or are rather representative of the short amount of time children have participated in preschool settings and individual maturation rates, among other alternative factors.  Further research and more longitudinal studies may give more sufficient measures of how preschool contributions can be beneficial to vocabulary outcomes and developments in Norwegian preschool environments.  It is furthermore beneficial to recognize the impact that home environments can have for vocabulary developments and that emphasis on increases in education levels.  Even more importantly, it could be compelling to investigate how measures taken to inform home environments about methods and language practices (such as shared-book reading) that promote vocabulary developments, could have preventative outcomes for later language and literacy developments.

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