

READING DEVELOPMENT IN BILINGUAL PUPILS

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ABSTRACT

The subjects are a group of bilingual pupils in 3rd grade. They live in an area dominated by Norwegian, but their parents have chosen Sámi as their first language in school. The pupils communicate in Sámi with one or both parents, the teacher, classmates during lessons, and in some cases other family members. In play, both in their neighbourhood and school, the children use Norwegian.

Earlier research has showed that bilingualism for some groups has a positive effect on education, for other a negative effect. The motivation for this study is to describe the language environment and the pupils' reading competence in the context described above.

The most of the children manage decoding rather well, and the decoding mistakes are of the same types in both languages. There is a connection between decoding proficiency and understanding of the text, but this is complex. The reading comprehension for all the children was at least twice as good for Norwegian texts compared with Sámi texts, for some of the children more than three times better. There was a clear connection between the children's language environment and their comprehension of the texts from school books written for the class level.

1 INTRODUCTION

1.1 Background

The Sámi people are the indigenous people of Norway. Actually the Sámi people live in four nation states; Norway, Sweden, Finland and Russia. The traditional Sámi area in Norway is from Femunden in the South and up to the northeast.

1.2 Language Context

There are three Sámi languages still spoken in Norway, namely Southern Sámi, Lule Sámi and Northern Sámi. This project is about Northern Sámi. In some Northern Sámi areas many inhabitants are Sámi speaking, but prefer Norwegian because they have established social relationship in a period when Sámi had low status. This investigation took place in an area dominated by Norwegian language.

In the core Sámi area, Finnmark and Nord-Troms, about 16.000 described themselves as Sámi speaking, and this is about 17 % of the total population in the whole area (Ravna 2000). In some parts of the areas most of the inhabitants have Sámi as their first language, but in other parts only a few of them are Sámi speaking. About half of the Sámi can read and write the Sámi language. Sámi is first and foremost used as an

oral language, but there are two newspapers in Sámi, and some books, reports etc. are now published in Sámi, even so the number of titles is still all limited.

This study has focused on a small group of pupils in primary school and their competence in reading. The pupils are bilingual Sámi – Norwegian. Their parents have chosen Sámi as their first language in school. However, their competence in Sámi are predicted to be lower than normally as first language competence, probably because Norwegian dominates the most social areas in the communities, included the pupils homes. The intention with this study has been to collect information from this particular context in order to increase the understanding of the relationship between the children's language environment, and both their speaking and reading competence. Such information would be important for planning the children's education.

For about fifty years it was prohibited to teach Sámi in Norwegian Schools. As a result of years of revitalization of Sámi, there have been an increasing number of pupils who chose Sámi as their first or second language in school. In 1990/1991 569 pupils had Sámi as their first language in school, however this had increased to 889 in 1999/2000 – which is an increase of 57 %. In the first community in this study the number of children taught in Sámi increased by 227 %, and in the other the increase was by 143 %. Additionally, an increased number have chosen Sámi as their second language in school. This increase has been 39 % in the whole area (Todal 2002).

In 1997 primary and secondary schools devised the Sámi curriculum for all the ten years of the children's education. The intention is that the whole education would contribute to reinforce the identity of the Sámi. However, to strengthen both oral and written in Sámi, is incredibly important in order to succeed at school.

1.2 The Project

The project was conducted part-time over the period September 2002 – June 2003.

The intention was formulated as a question:

What do we know about the reading proficiency in Sámi of stimulant bilingual pupils from communities dominated by Norwegian?

The question was concretized into three sub-questions:

- 1) Which contexts do the pupils have as a base for developing their language competence in Sámi?
- 2) What decoding proficiency do the pupils have?
- 3) What comprehension of materials written in Sámi do the pupils have?

The subject of this project represents a crossing point between different fields of expert knowledge, such as language development, bilingualism, reading development and training and reading difficulties, the last is in other words, reading competence. The knowledge basis for the study is drawn from three of these areas, namely language development, reading competence, and bilingualism. The project leader's experience is from practical work with training children in reading in general and with pupils who have language and reading difficulties.

2 PREVIOUS RESEARCH

2.1 Aspects of Language Development

Children acquire language in social situations. Parents give meaning to their children's vocalizations. It is important to language development that children become heavily influenced by the language or languages they need for communication – and later for education. The pupils in the particular context this project is concentrated on have had, and still have, few communication partners who speak Sámi.

Normally when children are about 4 years old, they have a satisfactory phonology, even though they may have difficulties with phonemes, which have only one distinctive feature, e.g. s/skj/kj in Norwegian (Fintoft et al. 1983). Sámi has twice as many fricatives compared to Norwegian, so it could be expected that the same problem exist for children who speak Sámi. However, there is no research which can confirm this. It is, however, well documented in other languages, e.g. from English speaking children (Howell and Dean 1994, Caplan 1996). Furthermore, this is a part of the normal language development; on the other hand, if a child has serious phonological difficulties in preschool, it can disturb the language development because the child will make different communicative experiences (Howell and Dean 1994). The pupils in this study do not have phonological problems. This gives reason

to explore, firstly, if other types of language difficulties, e.g. low competence in one of the two first languages as in this project, would give other communicative experiences. Secondly, what consequences there could be for language competence in general.

Additionally, Sámi and Norwegian have quite different morphological systems, in that Sámi has much richer and more productive morphology. This is an important aspect when deciding how to teach in written language. The morphological and syntax systems give both consequences for the other; e.g. the word order is not so important in Sámi as in Norwegian, because the morphological elements in Sámi tell us which of the phrases represent the actor in the sentence, and who or what the activity has consequences for. The different grammatical systems raise an interesting question: In which way will decoding mistakes affect the reading competence in the two languages? It is well documented that phonological competence and metaphonological awareness are related to effective decoding (amongst them Magnusson & Nauclear 1990, Høien & Lundberg 1997, Lyster 1998, Engen 1999). In addition, morphological competence and metamorphological awareness are necessary for effective and advanced reading (amongst them Tunmer et al. 1987, Veia 1991, Hagtvet 1996, Lyster 1998). A further point is that syntax competence and metalinguistic syntax awareness are related to the understanding of written materials (amongst them Tunmer et al. 1987, Scarborough 1990, Pratt et al. 1984). The condition for developing correct grammar is that the people in the surroundings use it. This is not a matter of course in this Sámi area.

The semantic development is the aspect of the language that governs the meaning of words and combination of words. Vygotsky (1999) focused on the relationship between thought and word, i.e. concept and the word as a symbol for the concept. Concept and word are not connected with each other in the beginning; however, early in the development thinking becomes dependent on the language, and the language become intellectual. Furthermore, Hagtvet (1996) has taken a retrospective view on thirteen Norwegian children who became low-level readers of the same age as the children in this project, i.e. 8-9 years old. These pupils were a part of a group of seventy children, randomly selected, which she has followed over a 4-years period. The children with low reading competence in Hagtvet's research had some common

characteristic features in the age of 6 and 9 that question their decontextualisation of the language and their grammatical competence, such as problems with i.e.:

- Defining the word meaning
- Correct sentences with wrong syntax
- Understanding complex syntax in a decontextualised situation
- Retelling a story

Students, who succeed in school, have higher language competence than necessary for everyday conversation, such as a hierarchically organized system of the concepts, and metalanguage awareness. It is important for the children's education to develop an academic/cognitive language level and as a part of this, a decontextualised language, i.e. a language less dependent of the actual context (Adams 1990, Wold 1996, Hagtvet 1996). When using a decontextualised language, the focus is on the content of the language, i.e. the meaning of the words, sentences, paragraphs, so it is not necessary to rely on the physical or social context and signs as gesture and intonation and stress. This competence is a result of using language in different situations with different purposes in different quantities of time, additionally, experiences written with materials.

2.2 Aspects of Reading

Over the last decade it has become well accepted that reading is a language-based skill. Oral and written language share several similarities, for example complex cognitive activities that involve both cognitive and language skills. The most evident is the vocabulary they both share. Readers and listeners also rely on common sources of language structure, i.e. word order, grammatical morphemes, and function words, additionally propositional knowledge, such as construction of idea-units that consist of a predicate and its related arguments. Even more, both listener's and reader's word knowledge, attention and memory limitation influence how easily oral and written language is processed. However, reading is not a simple derivation of spoken language. There are many differences, e.g. physical (sounds or letters), functional (face-to-face communication or individual endeavors), and form (how they represent suprasegmental, and prosodic and paralinguistic features).

In fact, to read and understand a text, the reader must be able to interpret the symbols on the page, convert the strategies for reading, access knowledge of the language, and incorporate prior knowledge of the subject (Catts and Kamhi 1999). In other words, reading consists of two main components, namely decoding and comprehension.

Decoding refers to word recognition processes that transform print to words.

Comprehension refers to listening comprehension, i.e. defining the process by which words, sentences, and discourses are interpreted (op.cit.)

An introduction to the alphabetic system (for alphabetic languages) is the basis for learning decoding skills. Furthermore, it requires phonological awareness, i.e. to appreciate the connection between phonological and graphical units. It is well known that it is a connection between phonological difficulties and awareness, and reading difficulties (Magnusson and Nauclér 1990, Lyster 1998, Høien and Lundberg 1997, Engen 1999). It is also documented, yet not so well, that there is a connection between grammatical awareness and reading and writing skills (Lyster 1998, Hagtvet 1996). Veia (1991) and Tunmer et al. (1987) have reported that it is a connection between morphological awareness and effective decoding. Veia found that Norwegian pupils with reading difficulties in class 10, i.e. 15-16 years old, had the same morphological awareness as pupils in class 3, i.e. 8-9 years old, without reading difficulties. Pratt et al (1984) submit results, which show that older pupils who were good readers had been able to correct morphological mistakes in ungrammatical sentences by the age of 5 – 6 year. The pupils in this study have learned some common patterns, which in English would be for example –ing, -ed, -able, -ment. They are, to some degree, able to use the direct visual route without phonological mediation, to access their semantic memory. Therefore they should be able to concentrate on the meaning of the text. Catts and Kamhi (1999) describe the decoding aspects, such as pattern recognition, letter identification, and lexical access as a bottom-up strategy, which is one of three reading strategies. The next is the top-down strategy, which refers to the conceptual skills. This is the first phase in reading to learn, not just for exercise to improve the decoding skills. One aspect of this strategy is linguistic processing, such as assigning syntactic/semantic roles, which needs to take place in very short time (Catts and Kamhi 1999). This includes both semantic and grammatical competence. The third strategy is a combination of the bottom-up and the top-down strategies, in other words, an interactive strategy. Adams (1990) argue that the most competent readers

use the interactive model, that is to say, a combination of both bottom-up and top-down strategies.

Even though, there is little doubt that receptive vocabulary knowledge is important for reading comprehension, and Catts and Kamhi (op.cit.) state that understanding texts is more than understanding words and sentences on a micro level in the text. In addition, the reader has to comprehend the main idea and also the ideas under the main idea in the text's macro level. Austad (2003) describes this meta-understanding as a "text grammar", as a parallel to the sentence grammar. The reader has to make hypothesis and prediction concerning the information being processed. This emphasize of conceptual knowledge, schema or script, i.e. an abstraction of a remind system, to infer about meaning and make decisions about which elements should be remembered. This makes reading an active, creative and constructive process. The understanding of the text lies in the interaction between the reader and the text. In addition to predicting what would happen, the schema or the script helps the reader to recognize what happened, and recall what she /he has read. In other words, the reader has to "read between the lines" in order to understand a text. Additionally, it is reported from studies that when the reader has extensive knowledge of the word, they pay attention to and remember the knowledge of the word of the situation rather than the information only in the text (Kulbrandstad 1998, Catts and Kamhi 1999). Reading comprehension could be characterized as thinking guided by prints. However, it is problematic to define reading comprehension in such a broad way as it involves higher-level processes. Nevertheless, a further discussion of the connection between language and mind is beyond the scope of this project.

2.3 Aspects of Bilingualism

When has the child enough command of both languages to be declared as bilingual? Bialystok's (2001) discuss the question and this show that criteria are needed in research of the subject. A decision about who to include as bilingual precedes the evidence for what effect bilingualism has on children. This is a methodological challenge. When bilingualism is a scale, moving from virtually no awareness of another language to complete fluency in two languages, at what point on this scale are children included in research? Furthermore, for whom are the results valid? It is not possible to give clear criteria for whom can be included and whom not, and therefore

Bialystok's conclusion is that bilingualism is not a categorical variable. After this, important variables, which should be considered, are parents' education level and their expectation for the children's education. Furthermore, language competence in the dominant language, the purpose for which the second language is used, community support for the second language and identity with the group who speaks the second language, are important aspects. In this project it is asked questions to illuminate some of these points.

Bilingual children can be found everywhere in the school system, however, surprisingly little research has been done in this area. The research has not given reading much attention, but has been mostly concentrated on second language users and their development in school in general; reading studies have concentrated on adult readers. Kulbrandstad (1998) has done research concerning the reading competence of four pupils in secondary school and compared the results with four first language readers. She found that both groups had mostly grapho-phonological mistakes. However, first language readers made consonant mistakes, whereas second language readers made vowel mistakes. Furthermore, the second language readers had more morphological and lexical mistakes than the readers who read the same texts in their first language. The consequences for the comprehension depend on the context in the text.

Most of the studies about bilingualism, have been concerned with the consequences of bilingualism. It is seldom that anybody asks questions about the consequences of monolingualism. Prof. Lüdi of the University in Basel summed up of the ICML-IX¹ in Kiruna in 2003, that bilingual children are more creative, intelligent, cognitively flexible and have more social awareness than monolingual children. Skutnabb-Kangas (1981) refers to research, which concludes that bilingual children are more sensitive to semantic aspects than monolingual children. Furthermore, they have more language awareness, but monolingual children have a better grammar and a better vocabulary. The bilingual children were better at understanding their partners' perspective in communication, and were better at a divergent way of thinking. Bialystok (2001) raises some questions about this. One of the questions concerns early bilingualism and

¹ International Conference on Minority Language

the promotion of the development of phonological awareness. In addition she asks whether the phonological awareness skills developed in one language transfer to another. Bialystok (op.cit.) concluded that there is little evidence to support the hypotheses that bilingual children establish higher levels of sound awareness, at least in the simplest form. Still they think about language in a different way because they have a greater repertoire of phonemic distinction.

On the other side, most of the reports concluded that bilingual children are not as educated as monolingual ones. It was well documented in the 80^s and 90^s that the socio-economic situation, and not bilingualism, is an important explanation for the differences. Moreover, it is important to look for characteristic features of different subgroups because the results of international studies, such as IEA² and PISA³, both focusing on reading competence, still conclude that bilingual pupils, as a group, have lower reading competence than monolingual pupils. Bialystok (2001) argues for the importance to find subgroups. She categorized three different consequences of bilingualism:

- Bilingualism can be beneficial for the pupil's education. The pupils' have metalinguistic awareness, can use language in a decontextualized situation, their concepts are organized hierarchically, and they can identify synonyms and antonyms. In other words, they have both high general and high bilingual competence.
- Bilingualism can be negative for the pupils' education. The pupils' can communicate in a satisfactory manner in both languages concerning issues in everyday life. However, the use of the languages depend on the context, they are less meta-lingual aware, their concepts are less organized hierarchically and they have fewer experiences with written language.
- Bilingualism can be of no importance for the pupils' education. They have passed the threshold of language competences, and by this their education can develop without negative effect, but they have not reached a high level of bilingual competence.

² The International Association for the Evaluation of Educational Achievement

³ Program for International Student Assessment

An important question for this project is on which level in the reading competence for the pupils involved. The answer depends on which of the three groups they belong to. Have they passed the language threshold so that their bilingualism could be beneficial for their reading competence? We know that reading competence is important for the education.

3 RESEARCH DESIGN

3.1 A Descriptive-Analytical Approach

The point of departure is a practical problem. The research takes a descriptive, analytical and qualitative approach even some of the data are quantified. A survey has to be based on a random sample, but the informants in this project are not chosen randomly. Different criteria have been used to choose the participant pupils. The group consisted of six pupils, divided into three pupils from two schools located in two different communities. Both of the schools include pupils who have chosen Sámi or Norwegian as their first language for education. In these two communities 30% and 9% of the pupils respectively had Sámi as their first language in school during the year this study was done.

The research can be described as a case study where the whole group of pupils is the case. The criteria mentioned in the paragraph above, are the characteristic features, which define the case. Case studies have at least two aspects in common, namely that the research have been done in the participant's natural environment, in this case in their school, and a great amount of information is collected and collated. Central to the researcher in interpretation of the data is to describe, understand and explain. The intention is to develop "understanding".

3.2 Sources of Information

Three sources are used to illuminate the questions put forward in the project, namely the pupils, their parents, and their teachers. Information collected by different methods has been evaluated, such as questionnaires, participating in observation over longer periods, different types of interviews and observations over several short periods. Two framework conditions were important for the research; namely distance to the schools and available time for the study. It is about 700 km to one of the communities and 550 to the other. The time allotted to carry out all aspects of the

project, was on average one day a week over 8 months. In addition to these practical issues, the type of information that has been considered conduct this study, resulted in a choice of semi-structured interviews of parents and teachers, and several short-time observations of the pupils' reading. Interview guides in both interviews with parents and teachers were used. The observation was done in September, November, February and April when the pupils were 8 – 9 years old.

3.2.1 Interview of Parents

The parents of all the pupils were asked questions from five categories (appendix A):

- The language situation in the local communities
- The language situation in the family
- The child's general language competence
- The child's language environment
- The parents' reasons for choosing Sámi as the child's first language in school

All the interviewees were asked the same questions, and all the questions were open, asking for their evaluation and descriptions within the areas mentioned in the bullet points. Moreover, it was important to be able to compare information from different parents. Therefore, each open question had some follow-up questions or different alternatives for the answers. This gave comparative information within some sub-categories, e.g. when asked about the language situation in the local communities, the parents were asked questions about in which contexts Sámi is used in the community, differences between the generations' use of Sámi, and both the mother's and the father's confidence with Sámi.

3.2.2 Interview of Teachers

There exist no formal tests of Sámi language competence, except a national test focusing of some aspects of reading where the focus is on competence in decoding, such as reading single words, single sentences and short paragraphs. To collect the information needed for this study, teachers are asked questions about their evaluation of the pupils' language competence (appendix B).

Class A had one main teacher who used Sámi in all the lessons. One teacher taught the class B in Sámi 6 lessons per week whilst the other teachers used Norwegian in

their teaching. Both of the teachers' who used Sámi in the teaching were interviewed.

The questions in the interviews are within three main categories:

- Competence in spoken language, both understanding and speech
- Reading competence, both decoding and understanding written materials
- The pupils everyday communication in Sámi

Both the teachers were asked the same questions. Most of the questions asked for the teachers' evaluations and descriptions. Also in these interviews there were follow-up questions or answer alternatives that gave the possibility to compare the results, for instance, the questions about reading competence, are followed up by questions about different written materials evaluated at three levels.

3.2.3 Observation of Reading

There were six reading observations, four on the material written in Sámi and two written in Norwegian, but only one text was used on each occasion. In all the observations the pupils read for the teacher and the observer took notes and made a recording. All the materials were from schoolbooks written for the third class level and chosen by the teachers as readable for the pupils. In this part the focus was on their competence in decoding. The readings were classified as whole-word-reading or phonological-reading. The reading mistakes were classified as phonological, grammatical or semantic mistakes.

Before reading the pupils were told that afterwards they should retell the read materials, and therefore had to pay attention to what the text was about. The observer gave points for each element of the material which was retold, such as mentioning character, negatives, times, negations, places etc. The summary gave figures as a base to compare the pupils reading competence in the understanding of the different written materials.

4 RESULTS

4.1 Language in the Local Community

The parents' description of the language environment is quite similar; Sámi is seldom heard in public. When Sámi is heard, it is elderly people conversing with each other on buses or in shops. Sámi is primarily used at home, but the same people in the same

contexts also often use Norwegian. The parents cite the elder generation as the basis for their use of Sámi, but elder generation Sámi is influenced by Norwegian words and grammar. However, the pupils' parents could have helped to create an environment for the use of Sámi, but they established social relations in Norwegian in a period when Sámi had a low status. All the interviewees state that it is difficult to change to another language in established social relationships.

All the parents point out the positive effects of the revitalization of Sámi, but they are concerned about how steady the new generation will be in the use of Sámi when the oldest speakers fall away. Nevertheless they believe that their own children will speak Sámi to the next generation.

4.2 Language in the Family

Five of the fathers and three of the mothers of the children in the study speak Sámi. Two of the parents have Sámi as a second language and have learned it as an adult. Therefore, the language situation in the families and the neighborhoods are different in some ways, but for all of the children, Norwegian is used as well as Sámi. Two of the families use primarily Sámi in everyday communication. In four of the families the mother and the father communicate with each other in Norwegian, however, in one of the families, both the parents communicate with their children in Sámi, even though they speak Norwegian to each other. For two of the children, only the father communicates with them in Sámi, and for the third child, neither of the parents speak Sámi, but the grandparents do. All the children have some other relatives or neighbors who communicate with them in Sámi. The children nearly always use Norwegian when playing, even though all of the children who participate are Sámi speakers. Furthermore, all the parents give the same two reasons for having chosen Sámi as the first language in school for their child, namely an individual responsibility for the revitalization of Sámi in the area, and secondly to give their child an identity as a Sámi.

4.3 Language in the School

In school A 14 of 47 pupils (30 %) had Sámi as their first language in school in 2002-03. The pupils were organized into classes according to language for their schooling. In all communication and training in the class, the pupils and the teacher used Sámi.

In some subjects, such as gym and handcrafts, both Sámi and Norwegian were spoken in the same class. The instruction was given in both languages, but always first in Sámi. In free periods, such as in the breaks, the pupils nearly always spoke Norwegian. The teacher from the school in community A reported that the pupils from the same class had started using Sámi sometimes when playing together.

The situation in school B was different; 5 of 53 pupils (9%) had Sámi as their first language for schooling, and then, both Sámi and Norwegian speaking pupils were in the same class. The three Sámi speaking pupils in the third class had six lessons each week in a Sámi speaking group. In some of the other lessons they had a bilingual teacher who spoke to them in Sámi, but all the teaching was in Norwegian, and so were the schoolbooks and other teaching materials. The pupils spoke only Norwegian in free activities, even though, they did not speak Sámi of their own initiative, and they always answered in Sámi if somebody addressed them in Sámi.

4.4 Children's Language Competence

Both parents and teachers were asked to describe the children's competence in Sámi. All the parents concluded that their child communicate easily in Sámi. One of the parents evaluated Sámi to be the child's best language, two evaluated Sámi and Norwegian to be equal, and three, Norwegian to be better than Sámi.

The teachers were asked about the pupils' understanding when listening to Sámi in different contexts, i.e. in everyday use of Sámi, and the teacher's use of Sámi in the lessons. For both contexts the teachers had three answer alternatives given, namely, *almost always*, *sometimes* and *seldom*. The results are summarized below:

- In everyday language in school:
 - : Four of the children were assessed to understand almost always
 - : Two of the children were assessed to understand sometimes
- In school training:
 - : Three of the children were assessed to understand almost always
 - : Three of the children we assessed understand sometimes

The teachers were asked about the accuracy of the pupils' Sámi speaking. The results were:

- For one of the pupils the teacher characterized her/his speaking to be in longer phrases which are often grammatically correct
- For five of the pupils the teacher characterized their speaking to be in short phrases which are often grammatically incorrect

The last answer alternative, the speaking in short phrases, which are often incorrect, was not used.

The teachers were asked about the pupils' Norwegian speaking. For all of them the result was, *as normal for the age*.

The teachers answered question about the pupils' understanding of three different materials; namely, national tests, school books and children books. The result of the National test on reading was:

- For two of the pupils *over average*
- For four of the pupils *on average*
- None was evaluated to be *less than average*

The result of teachers' evaluation of the understanding of texts in the schoolbooks was:

- For one of the pupil's *as expected for the age*.
- For five of the pupils' *less than expected for the age*.
- None was evaluated to *better than expected for the age*.

The result of the understanding of texts in children's books was:

- For three of the pupils' *as expected for their age*
- For the other three their understanding of texts in children's books were not known to the teachers

4.5 Observation of Reading Competence

The texts were from books written for the 3rd level in primary school. Table 1 (appendix C) gives an overview of some aspects of the texts. The differences in morphological structure in Sámi and Norwegian have the consequence of making a comparison between Sámi and Norwegian texts based on the number of words

irrelevant. However, table 1 gives information about the texts that are useful in the discussion about feature and the decoding, for example word length in letters and syllables, number of words in the sentences, number of dependent clause in the sentences. Table 2 (appendix D) presents the results of the observation for each of the pupils, both for decoding and understanding.

4.5.1 Decoding

As table 2 (appendix D) shows, most of the words are read as whole words without phonological division. The mistakes are divided into three categories:

1) Phonological mistakes:

Precise phonological decoding is based on an automatic association between grapheme and phoneme. Phonological mistakes are defined as reading a word as if it was a nonsense word, vowel and diphthong confusions, and the wrong length of the vowel. A summing up shows that 42 % of the mistakes in the Sámi texts, and 40 % of the mistakes in the Norwegian texts, are categorized as phonological mistakes.

2) Grammatical mistakes

In this category there are mistakes in word inflections, word derivation, word combinations and congruence between words in the same phrase. For example:

- Wrong or non-marking of persons and tense in the verb
- Wrong cases
- Wrong marking of singularisation
- Wrong article (Norwegians texts)
- Other grammatical mistakes

A summing up showed that from reading Sámi and Norwegian texts, 36 % and 35 %, respectively, are grammatical mistakes.

3) Semantic mistakes

The border between the different categories is not absolute for the purpose for this research. Mistakes, which resulted in a new lexeme, are classified as semantic mistakes. The semantic mistakes in this context have a phonological or orthographic similarity with the goal word. What are understood as phonological similarities

depends, partly, on the readers' phonological competence in the language, e.g. will "word" and "world" sounds more similar for a person with low competence in English than for a native speaker. A summing up showed that 22 % of the mistakes in Sámi texts, and 25 % of the mistakes in Norwegian texts are semantic mistakes.

4.5.2 Understanding of the Texts

Table 3 gives an overview of how many elements of the material the pupils retold.

	School A				School B				Total
Pupils	1	2	3	1-3	4	5	6	4-6	
Sámi	23.5	15.8	22.8	20.6	8	9.8	6	7.9	14.3
Norwegian	49	41.5	50.5	47	19.5	46.5	47	37.6	42.3

There were some features in common of the pupils' retelling:

- The retelling with fewer than 9 % of the elements included only the heading and a couple of sentences from the beginning of the text.
- The retelling with 9-13 % of the elements contained some parts of the story in the text. They could add a few more parts when the teacher asked questions.
- The retelling with 17-18 % of the elements, contained no introduction to the story, however, the parts they retold, were in the same order as in the story, even though the connection between the parts was unclear. The retelling had few details and showed no overview, even though the pupils had understood the essence of the story.
- The retelling of 25-31 % of the elements contained a short introduction and the main ideas with some descriptive parts. Still the retelling had few details.
- The retelling of 37-43 % of the elements, contained some parts with many details, but other parts were deleted. The retelling had a logical progression, although it was lacking some connections in the progression.
- The retelling of 50-60 % of the elements, contained all the important parts, retold in a logical order with natural progression connection between the parts.

On some occasions, the teacher read the text for the pupils after her/his retelling, and for each sentence, the pupil could ask for an explanation of words she/he did not understand. The lack of vocabulary became apparent. The retelling after this is marked with 2: in table 2 (appendix D).

5 DISCUSSION

5.1 Language Competences and Communication

The fact that children in this study have few communicative opportunities to use Sámi is a natural explanation for the grammatically incorrect expressions and the insufficient vocabulary. They asked for explanations of quite familiar words from their environment, such as "went down", "to smell", "comfort", "shivering" and "on the path", furthermore, they knew the corresponding Norwegian words. Research from groups with quite different linguistic challenges, but still low competence, reports that communication partners used simpler language and many more yes and no questions to ensure that the child had understood what was said (Howell & Dean 1994). Could the same be relevant for this group? To answer this question it is necessary to analyze the communication between a parent and child. However, all the parents in this research reported that their child did not have any problems with every day communication, even though three of them evaluated Norwegian to be the child's best language. However, the teachers reported that they had to use more simple Sámi language in teaching to make sure that the pupils have understood. If this is necessary, it gives another communication experience than that of pupils who are expected to have a better language competence. Nevertheless, it is not known what consequences this may have for the development of language without further research.

5.2. Decoding and Reading Comprehension

An interesting aspect is how decoding mistakes influence the understanding of a text. Table 2 (appendix D) gives an overview of the pupils' competence in decoding. The range of reading mistakes varies from 1-16 % of the read words. Most of the phonological reading mistakes change the content-words, i.e. noun, verb, adjective, and adverb, to nonsense words, even though the written word and the nonsense word have phonological similarities, the reader seemed to lose the meaning. In addition, the semantic mistakes strongly affect the meaning of the text as the reader mistakes one word for another word. Phonological and semantic mistakes together totaled 64 % and

65 % of the mistakes from Sámi and Norwegian texts respectively. Furthermore, a competent reader who focuses on the content in the written material would make spontaneous corrections when the texts became meaningless; generally the pupils observed did not do this, which indicates that their awareness was divided between decoding and content.

Different research reports conclude that there is a connection between grammatical competence and awareness on one hand, and reading competence on the other hand (Tunmer et al. 1987, Veia 1991, Hagtvet 1997, Lyster 1998). Furthermore, 36 % of the reading mistakes of Sámi texts were grammatical mistakes thus indicate a reduced grammatical competence or awareness. The teachers' reporting of grammatical mistakes in their expression supports this. However, it was surprising that the level of grammatical mistakes was overall the same as when reading Norwegian texts. Most of the grammatical mistakes for both Sámi and Norwegian texts, affected the congruence. However, the grammatical mistakes have different consequences for Sámi and Norwegian because the structure of the two languages is different. A larger part of the Sámi grammatical mistakes were more serious for the meaning of the texts, e.g. the mistakes affected the morpheme which reflects who did the action and who or what received the consequence of the action, and, another example whether the person was in a place or moved to or from the place. None of the Norwegian grammatical mistakes had such serious conclusive consequences for the meaning of the sentences. Many of them are a confusion of the articles to female, male and neuter nouns and congruence between adjective and noun.

In conclusion, phonological and semantic mistakes have consequences for the meaning of the texts. However, it is difficult to determine how the context influences these consequences. In addition, the grammatical mistakes confuse the reader, and would in some cases give the opposite meaning of the relationship between two phrases. Kulbrandstad (1998) concludes that many mistakes creative comprehension difficulties, however, making only few mistakes are not a guarantee of a satisfactory understanding. Additionally, Kulbrandstad reports that a student had a good comprehension of the text, even though there were many mistakes in the decoding. Furthermore, another students had difficulty with the comprehension even though the decoding was without mistakes. The same results were found for pupils 3 and 5 where

pupil 3 had many mistakes but better comprehension than pupil 5 who made decoding mistakes (appendix D). It seems that there is a connection between decoding and comprehension, however, far from simple. Weak language competence seems to be a more basic explanation than the decoding mistakes. This is supported by Hagtvet (1996) who reported that children with low reading competence had primarily semantic difficulties, such as defining word meaning, finding synonyms and antonyms and identifying the difference between the collocation of the same word, e.g. "motorboat" and "boatmotor".

5.3 Number of Decoding Mistakes and Comprehension

After a first look at the results (appendix D) concerned with the connection between decoding mistakes and the comprehension of written material, the picture seems to be unclear. However, the picture became more clear when the pupils were divided in three groups.

Table 4: Connection between decoding and comprehension (for all the Sámi texts)

	Group 1		Group 2		Group 3	
	Pupil 4	Pupil 6	Pupil 1	Pupil 2	Pupil 3	Pupil 5
Decoding	7 %	10 %	2 %	2 %	9.3 %	1.5 %
Comprehension	8 %	6 %	23.5 %	15.8 %	22.8 %	9.8 %

Group 1: Pupil 4 and 6 have both the lowest rate of understanding of the texts.

Furthermore, for both, the decoding is characterized by a large number of decoding mistakes. In addition, compared with the rest of the group, fewer of the words were read as whole words (table 2 in appendix D).

Group 2: Pupil 1 and 2 are among the pupils with the best understanding of the texts compared with the others in the group, and both have excellent decoding for readers of this age.

Group 3: Pupil 3 and 5, are quite different:

: Pupil 3 scores the second best on the understanding, although the pupil has high rate of mistakes

: Pupil 5 makes the fewest decoding mistakes, but a low score on understanding

The results for group 1 and 2 are equal in the way that there is a connection between decoding and understanding; few mistakes result in better understanding, whereas many mistakes result in a lack of understanding. That seems logical and is confirmed in the literature concerning dyslexia (e.g. Høien and Lundberg 1997, Catts and Kahmi 1999). However, group 3 disturbs the connection between decoding and understanding because pupil 3 and 5 seem to use quite different reading strategies. Pupil 3 uses a top-down strategy, i.e. she/he starts with larger language units and succeeds in grasping the meaning. Pupil 5 uses the opposite strategy, i.e. a bottom-up strategy, where she/he starts with the smallest language units and build these up to meaningful units. Pupil 5 has a surprisingly good decoding for her/his age. The ability to decode subconsciously allows the reader to focus on the comprehension of the content of the text rather than at word or phoneme level (Gjessing 1978, Adams 1990, Høien and Lundberg 1997, Catts and Kamhi 1999, Bostrom et al. 1999). However, both this study and in the study of Kulbrandstad (1998), discussed in chapter 5.2.1, show that excellent decoding is not enough alone for excellent reading comprehension. Reading is based on language, therefore both vocabulary and structural language competence are important for the comprehension of written materials. Furthermore, the reader must succeed in creating a connection between the different parts of the text and her/his knowledge external to the text. This leads to a question regarding reading strategies. A bottom-up strategy is not sufficient to grasp the meaning in a paragraph or a whole text. However, pupil 5 had a much better result when reading Norwegian texts. This indicates that she/he can manage both bottom-up and top-down strategies. A natural conclusion on her/his low understanding of Sámi written materials is that her/his Sámi competence is limited. Pupil 3 manages to compensate for weak decoding competence with a top-down strategy. This is possible for a reader in the first classes in primary school; however, the expectation is that the problems will increase in step with increasingly complex written materials, if decoding competence does not improve. To be an advanced reader it is necessary to manage to shift easily between both reading strategies.

5.4 Reading and Text Feature

Table 1 (appendix D) gives an overview of different features of the texts. For obvious reasons one should naturally look for connections between text features and the number of reading mistakes. A review shows an increasing number of decoding

mistakes in texts with a larger number of words with more than two syllables. However, a larger number of words or dependent clauses in the sentences does not seem to effect the decoding, yet, it can affect the understanding of the written materials. On the one hand, the collected materials in this research give reasons for such a conclusion. When comparing text 1A, read by pupils 1-3, and text 1B, read by pupils 4-6, the result shows that the two texts are equal in the number of words with one and two syllables, on the other hand, text 1 A has fewer number of words and dependent clauses per sentence. The average understanding of text 1A is 12,7 % and the understanding of text 1B is 7,3 %. Thus the conclusion that the number of words and dependent clauses in a sentence affect the understanding has the condition that the language level for all the pupils is approximately similar. The average understanding of all the texts in Sámi is 20,7 % and 7,9 % for the pupils 1-3 and 4-6 respectively. With this background it is not possible to conclude either; that there is a connection between the number of words and dependent clauses in the sentences and the understanding, nor the opposite.

5.5 Language Competences and Reading Comprehension

The parents' evaluation of their children's language competence is based on everyday communication. Education and reading as a part of it, presuppose communication competence. However, everyday communication skills are not sufficient. To succeed in reading, the reader has to pass a threshold of academic/cognitive language. In order to understand written material it is necessary to combine one's conceptual knowledge, in other words, ones knowledge about the world, experiences and the information in the text. This implies, amongst other things, concepts that are hierarchically organized and with linguistic symbols, in other word, a rich vocabulary.

The reading observations showed only small differences in the number and types of mistakes in Sámi and Norwegian. Nevertheless, the retelling of Norwegian written materials includes a greater number of content elements. The average understanding of the Norwegian texts for pupils 1-3 (class A) and the pupils 4-6 (class B) are 47 % and 37,6 % respectively, the corresponding figures for the Sámi texts are 20,6 % and 7,9 %. More details are shown in table 3 (p. 20). This shows a connection between language environment and reading comprehension. Pupil 1-3 have more experience in using Sámi, both in the families and in the school, and they have a higher reading comprehension than pupils 4-6.

The research presented here is based on only a small sample, thus the figures are not reliable in details, furthermore, no generally conclusion can be drawn, even though the differences in comprehension of Sámi and Norwegian texts are clear enough to support previous conclusions that an evaluation of everyday communication is not sufficient for educational purposes. The pupils increased their understanding of the texts from at least 8 % to 25 % when they received explanations of all the words they asked for. It is possible to interpret this as a consequence of a limited vocabulary in Sámi. This information would be useful for further vocabulary investigations and for the planning of the children's education to prevent negative consequences for their schooling.

We know from different research that bilingualism can be either beneficial or detrimental for a child's education (Skutnabb-Kangas 1981, Bialystok 2001). In addition, we know that reading competence is important for education. The pupils at this study are in the beginning of their education. The intention with this study was to describe, understand and explain information about the language environment and reading competence, and through this process develops understanding of the pupils' language and educational situation. The conclusion is that all the pupils in the study have had, and still have, few arenas to use Sámi. A consequence seems to be an insufficient vocabulary. The reading competence is much better when reading Norwegian texts; despite there are only small differences in the number or types of decoding mistakes. All of them have serious problems with understanding Sámi texts from schoolbooks written for the 3rd level in primary school; designed to be understood of pupils of this level of education. This is a serious situation for their education. From earlier research we know that the basis for success in school is a high general language level, i.e. a cognitive/academic language. What we do not know, in this case, is their general language competence. In the study the main focus has been on their reading competence in Sámi. It is of great interest to highlight this issue, indeed we know the importance of high competence in the teaching language, but how can the pupils Sámi competence be improved? The results discussed are important information which the communities, schools and parents, all of whom should take these issue into consideration. One of the main goals of the curriculum is

to develop the pupils' Sámi into a tool for learning. This will require the schools, parents and communities to work together in a coordinated effort.

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