

Participation on equal terms

– the braille reading pupil's possibilities
to participate in the classroom



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Preface

Resource Centre Vision, which is a national resource centre within the National Agency for Special Needs Education and Schools, is commissioned to give advice and support around the target group children, youth and adults with visual impairment. Resource centre vision offers special educational assessments as well as educational support for parents and teaching staff.

In today's school inclusion is a key concept which aims at giving all pupils the opportunity of participating in both a learning environment and in the school's social life. As head of the Resource Centre Vision I regard it as very urgent to nationally increase our knowledge about which prerequisites are needed in order to manage to educationally include pupils who are profoundly visually impaired. This applies in particular to pupils who are dependent on another reading medium, braille, which puts special demands on the design of the learning environment. It has therefore been positive to, within the framework for the resource centre's work to support a project which aims at illuminating factors that influence the braille reading pupils' possibilities for participation in the classroom.

The project group represents different disciplines, which has given the opportunity of highlighting the area from an interdisciplinary perspective. The group has consisted of, from Resource Centre Vision, Anders Rönnbäck, special educationalist, Kim de Verdier, authorized psychologist and Annica Winberg, authorized sociologist, as well as Stephan Baraldi, PhD at the Psychological Institution, Stockholm University.

I would like to, together with the members of the project group, give my thanks to those children, parents and teachers who, in different ways, have participated in any of the project's sub-studies. You have all, in an invaluable way, contributed to developing knowledge about how we can work to create a school situation which offers optimal opportunities for participation for pupils who are visually impaired.

Special thanks go to the project group's supervisor Kerstin Fellenius, PhD and senior lecturer at the Department of Special Education, Stockholm University, who, with her many years of experience, her deep knowledge and her pedagogical approach has been an important support and a large source of inspiration in the work.

Christina Nordqvist
Head of Resource Centre Vision, 2003–2008



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Introduction

In Sweden pupils who are visually impaired without additional disabilities have been educated in their ordinary schools for the last twenty years, together with fully sighted class mates. A few of these children and young people have such reduced sight that they read braille. For the individual teacher this means a challenge in succeeding with the task of creating a teaching environment which is characterized by equality, participation and fellowship. This means that the teachers must, on a daily basis, deal with a number of important questions: What are the possibilities for the braille reading pupil to participate in the social interaction in the classroom on terms equal to those of sighted classmates? What limitations does visual impairment incur with respect to obtaining access to visual information that classmates have, and how is this handled? Of what significance is it that the individual pupil has a different reading medium? Can different working methods lead to inclusive or segregating processes? How can the self-confidence of the braille reading pupil be strengthened so that he or she feels secure and is participating in the group? Despite the relatively long experience which we have of inclusive education in Sweden today, the answers to these questions are still not obvious.

In our work at Resource centre vision, a national resource centre for children and young people with visual impairment, we have in our daily work the possibility of sharing the experience of the school environment which pupils, parents and teachers convey to us. We have also understood that there is a large need of increased knowledge in the field. This has inspired us to try to learn more about the complexity that the school environment implies for pupils who are visually impaired and who read braille.

Inclusion as a concept in the context of education aims at giving all pupils the possibility of participating in the learning environment as well as in social life in school. The concept, which was introduced in the beginning of the 1990's, has come to mean a change in mindset where the point is that all pupils come to school with varying conditions and needs which the school has to meet. In many policy documents, both at national and international level, it has also been stated that today, all pupils, irrespective of ability, should get education within the framework of the ordinary school. However, creating preconditions for real inclusion, demands being able to identify several obstacles to teaching and participation for pupils in need of special support, and also being able to find tools and methods that increase the opportunities for participation for *all* pupils.

Many factors on different levels affect the braille reading pupil's possibility of participating in education and the social interaction on equal terms with sighted peers. In order to understand better the factors that influence these processes an interdisciplinary research approach is necessary. It has therefore been of great value

that the project group, consisting of different vocational professions, represented pedagogical, psychological and social research perspectives, which created opportunities to study events and processes from different perspectives, which we feel has been very enriching.

Our hope is that experience and results from this project will be able to function as a guide and support when training teachers and other educational staff to teach pupils with severe visual impairment in elementary school.

In a communicative relational research perspective one of the basic assumptions is that all teaching occurs in interaction between the individuals and their surroundings. Research in this area needs to be conducted both at the individual, group and organizational level (Ahlberg, 2001). The project we have implemented is based on this assumption, and consists of two major sub-studies: a questionnaire involving educationalists who teach braille reading pupils, and a longitudinal case study, where a group of braille reading pupils were studied over time. While the survey illuminates the educationalist perspective with a broader approach, the case study represents a deeper approach and includes pupils, parents and educationalists. As earlier research in this field has focused, above all, on participation during breaks and free activities for visually impaired pupils, we have, instead, chosen to aim our interest at activities that take place in the classroom.



Purpose and issues of the project

The purpose of this project is to increase the knowledge about how you can create preconditions for pupils who read braille to be included in the learning situation and in social life in the classroom. The goal is to try to identify and highlight particularly favourable factors that may increase these pupils' opportunities for participation and activity in different school situations.

The cross-cutting issues highlighted in the project are:

- How do teachers and parents apprehend that the braille reading pupil's opportunities for inclusion are affected by
 - organizational factors such as resources, procedures, physical environment and technical aids?
 - social climate and pupil's interaction patterns?
 - the braille reading pupil's individual prerequisites?
- How do the braille reading pupils themselves apprehend their situation and their opportunities to be involved in the learning situation and in social life in the classroom?



Background

From integration to inclusion – the concepts and different approaches

The concept of integration was originally used to describe the phenomenon of children with disabilities living at home with their parents and receiving their education in their local school and not in a special school in another location (Haug, 1998). The concept reflects a democratic approach where the goal is that differences between people are not considered as a problem, but as an asset contributing to the common good. But the interpretation of the term can also mean that there is a built-in notion to the contrary, i.e. that the individual has been, or risks being, outside and separate – *segregated*. Largely due to the criticism that arose about how the word integration would be interpreted, there emerged in the English-speaking countries in the early 1990s the concept of inclusion (Emanuelsson, Persson & Rosenqvist, 2001).

The senior researcher Claes Nilholm writes in *Perspectives on Special Education* (2003) that the main reason why many wanted to leave the concept of *integration* was probably a desire to communicate something new about the concept of *inclusion*. While integration was associated with conjoining something that is already divided (segregated), the concept of inclusion could be said to be based on the idea of diversity, where diversity is a natural starting point for the school's organization. While integration was about how "deviant" children could be part of the existing school environment, inclusion is about change in the whole school environment, to adapt this to the diversity created by the pupils' differences.

Concepts such as "a school for everyone" and "inclusion" have come to have a big effect and build, to a greater or lesser extent, the basis for many policy documents at national and international level. The Norwegian researcher Peder Haug discusses the concept's normative meanings and how they correspond to reality in Swedish schools today. Haug's argument is based on that children have different backgrounds when they come to school. This school may respond in two main ways. On the one hand, by a sort of compensatory justice thinking where the individuals should be compensated for their shortcomings, which means being pointed out and often placed in excluding environments. On the other hand, through democratic participation, the individual's right to participate is the guiding principle of how education should be organized. Haug supports a democratically participant controlled school where human diversity is a key requirement (Haug, 1998).

Within special education research different perspectives have been developed to understand where the difficulties about participation lie for a person with a disability. Nilholm (2003) describes three approaches - the compensatory perspective, the critical perspective and the dilemma perspective. The compensatory approach

is rooted in medicine and psychology and is characterized by the individual having some kind of problem, due to a certain background or some characteristics that need to be compensated for in different ways. Based on this idea, it is important to identify groups with common problems, such as a common disability, to try to find causes of problems and thus to deal with these.

Much of an opposite position exists within the critical perspective which includes an ideological criticism of a much too extensive diagnosis. There is also the approach that involves the abolition of special schools and other special solutions, and instead creates "a school for everyone" with an inclusive approach. The focus is on adapting the environment and changing the system as well as to accept individual differences.

The dilemma perspective relates both to the criticism levelled at special solutions and categorizing of pupils *and* the requirement that the school also has to do something for those pupils who cannot benefit from this form of teaching that is usually conducted in the classroom. Should pupils be compensated for their potential difficulties and thus do something different, or should they participate fully in the ordinary teaching? The constant question for special education has been, and still is, what will help the pupils best – to separate groups of pupils with similar difficulties in order to adapt the teaching better for these pupils' needs or to avoid categorization and instead see the varying preconditions as an asset for the group?

An international classification system

In May 2001, the governing Assembly of the WHO (World Health Organisation) approved a biopsychosocial classification model for how functional condition, functional impairment and health should be described: *International Classification of Functioning, Disability and Health (ICF)*. The goal was to create an international classification system, using a multidimensional perspective with respect to causal factors and connection between environment and health. With ICF, a structure has been created, a kind of universal language for everyone involved in health-related human functions. The emphasis is on function and not on diagnosis, ICF describes a dynamic approach to disability which stresses the importance of the environment, and highlights the concepts of *activity* and *participation* in the individual. How the individual functions in everyday life situations is critical to the degree of participation. But also the individual's own involvement in the entire situation, not the activity itself, is decisive in determining how involved an individual is considered to be (WHO, 2001).

ICF is strongly influenced by the Universal Declaration of Human Rights and is also based on the UN Standard Rules to ensure full participation and equality for people with disabilities. ICF describes four dimensions:

- *Bodily functions and bodily structures* that show how the person functions physically and mentally.
- *Activity* that shows how the person performs daily activities.
- *Participation* that shows the person's involvement in life situations
- *Environmental factors* that show which physical and social environment and which preconditions and circumstances surround the person.

Since 2004 there is also a version for children and youth, ICF-CY (*Children and Youth*). This version has been produced by an international working group, and field trials have been carried out in different countries, including Sweden. ICF's

children and youth version takes into particular consideration that disability is different between children and adults, that children are in constant development, that developmental delays should be perceived as an indication of a problem, and that to be in a position of dependence is a critical factor for children and young people. (www.socialstyrelsen.se).

Participation – a concept with several dimensions

Several researchers have drawn attention to the conceptual confusion surrounding several key concepts in the disability field. One of these is the concept of participation. One of those who tried to give the concept a more precise definition is Martin Molin, PhD. He means that the concept of participation can partly be used to describe a characteristic of the individual, and partly to describe an interaction process. A definition of the term should not just be based on individual traits, so-called intra-personal participation, but should also consider what is going on between the individual and his or her surrounding, i.e. interpersonal involvement. A general definition of the concept of participation should include both subjective and objective dimensions (Molin, 2004).

In accordance with the ICF terminology participation is characterized by an individual who carries out a task with an *active involvement*. Molin means that in order to participate the individual must have both a *formal* and an *informal membership* in a social context. For instance, belonging to a class involves formal membership, and informal affiliation deals with the subjective experience of being accepted into the group.

For an individual to be considered involved in a broader sense, *self-determination* and *autonomy* is also required, i.e. for the individual to make independent choices and to have control over his or her situation. Participation can also be said to contain a certain amount of execution or distribution of *power*, even if you cannot say that participation necessarily *results in* power. Another condition for participation to occur is *interaction* involving give and take between the individual and his social surroundings. (Molin, 2004).

The researcher Ulf Jansson defines the concept of participation from six aspects. The aspects are divided into two categories: *subjective participation*, including aspects such as *autonomy*, *commitment* and *acceptance*, i.e. something the person experiences him- or herself, as well as *objective participation*, which includes aspects of *cooperation*, *accessibility* and *affiliation*, i.e. external relations which have to exist for the experience of participation to be well grounded.

Aspects of both subjective and objective levels have to exist for full participation to prevail. It is not enough that a person purports to be engaged in cooperation with other people. Such cooperation must also be observed by others. In conclusion, Ulf Jansson means that full and unrestricted participation can be said to exist when the activity is wanted by the individual and is available for the individual, and at the same time participation means an interaction and a cooperation that is engaging for the individual and accepted by the other actors. (Jansson, 2005).

Disability policy documents

Several national and international policy documents govern both children's rights in general and disabled children's right to education and participation on equal

terms in society. For the design of the Swedish school system, a number of policy documents have particular significance. The UN Convention from 1989 states that all children are equal and that no child should be discriminated. Children with physical or mental impairment are entitled to a full and decent life, enabling their active participation in society. The Convention on the Rights of the Child also gives all children the right to basic education (www.unicef.se).

In 1993 the UN General Assembly approved a new doctrine in the disability field, the UN Standard Rules. The default rules, which are 22 in number, are designed to ensure that all people with disabilities are guaranteed participation and equality. People with disabilities *should* be guaranteed the same rights and obligations as other people in the community. The right to education implies that member countries should recognize the principle of equal access to education at primary, secondary and higher education for children, adolescents and adults with disabilities and that the training should be an integral part of the normal education system (paragraph 6, the UN Standard Rules, 1993). The Council of Ministers of the EU has decided that the Member States of the EU will work under the UN Standard Rules (www.un.org).

Disabled pupils' right to education within the normal school system is governed by the *Salamanca Declaration* of 1994. In The Salamanca Declaration (Chapter 1, paragraph 18) it is stated: *"Integrated (inclusive) education, is the most effective means of building solidarity between children with special needs and their peers. Sending children to special schools - or bringing them together within a particular school on a permanent basis should be of an exceptional arrangement, only in rare cases, where the child's needs cannot be met in the regular classroom."* (www.spsm.se).

The documents for the Swedish school system, particularly the Education Act (SFS 1985:1100) and the curriculum for primary schools (Lpo 94) are very influential when it comes to education of children with special needs, as are the UN Standard Rules and the Salamanca Declaration.

With respect to the right to information and education for people with disabilities, an FN convention was published as late as in 2006, the Convention on the Rights of Persons with Disabilities. This relates in particular to disabled people's rights to communicate, to express their own views and to share information. Article 24 states the right to learn braille and, through studying, attain optimal academic and social level. This requires of the states that teachers at all school levels are specially trained to teach braille. UN conventions are legally binding on the states that adopt them, as Sweden has done (www.un.org).

Education of children with visual impairment, past and present

Braille was introduced in Sweden as a code for written language of the visually impaired in the late 1800s. This meant that children with severe visual impairment could now receive instruction in reading and writing, which had not been possible before. The Swedish Parliament decided in 1896 on compulsory education for blind children, and on September 1, 1888 the Royal Blind Institute moved into newly built premises at Tomtebodavägen in Solna. Now there came children, blind or with very limited vision, from all over Sweden to live and attend school during most of their education (Tomtebodavägen School's Resource Center, TRC, 1997). Pupils were taught according to the same curriculum as pupils in the ordinary elementary school,

but they stayed on for ten or eleven years because they also received instruction in compensatory techniques and vocational training. In 1965 the Royal Institute for the Blind became the Tomtebodas School. Pupils at the special schools attended a 10-year compulsory school and were taught according to a particular curriculum (The Swedish National Board of Education, 1970). In the teaching programme, The LGR 69, it says:

”Visually impaired persons have a slower study pace than sighted. Braille reading and reading talking books is also performed at lower speed than reading ordinary text. Therefore, special schools have an extra primary school year and therefore special schools should also provide pupils with a specially directed instruction in study skills.” (The Swedish National Board of Education, 1970, p 12).

During the 1950’s and 60’s the discussion on integration and the right for children with visual impairment to attend their local schools started to get more intense. More and more pupils, after the eighth or ninth year, chose to leave the special school and continue their education locally. In order for these pupils to be able to receive educational support in their local schools, a regional support organization was developed with its base at the Tomtebodas School. This support consisted of consultants for preschool children with visual impairments and itinerant teachers for pupils with visual impairment. More and more parents began to demand the opportunity for their children to attend school in the community, which led to a declining number of pupils at the schools.

Following the directive from the former Swedish National Board of Education and the Ministry of Education a plan was started for a resource centre to operate in parallel with the special school. In 1986 the Tomtebodas School finally closed as the number of pupils had declined substantially and in the same year the Tomtebodas School resource centre was inaugurated. Since then virtually all pupils with visual impairment without additional disabilities have been taught in the elementary school in their local community. Pupils with visual impairment in combination with other disabilities are offered the opportunity to attend a special school at Eke School in Örebro. In connection with this school is also a resource centre. Itinerant teachers who had previously been linked to the Tomtebodas School were initially transferred to the County Board of Education, and later, in 1991, included in The National Institute on Disability in Schools (SIH). The designation of the profession was now to become consultant for children and pupils with visual impairment.

A couple of government studies in the school area during the 1990s, including the FUNKIS investigation (SOU 1998:66), came to emphasize further the idea of integration and the vision of “education for everyone”. On July 1, 2001, the resource centres mentioned above, along with a number of other government supported activities for pupils with disabilities, were merged in the newly formed Swedish Institute for special needs (SIT). The main purpose of this new governmental authority was to provide special educational support to the municipalities in order to provide all pupils with an equivalent level of schooling. The regional advisory activities (SIH) were included in the authority seven years later; the governmental special pedagogical support for pupils with disabilities was reorganized. The new National Agency for Special Needs Education and Schools (SPSM) started its operations on July 1, 2008, and so activities from several authorities, previously independent ones, within the school area were brought together, including the Special Education Authority (SPM), the National Agency for Special Educational Support (SISUS) and also the Special Education Institute (SIT).

The transition from special schools and special education groups to the integration of the majority of pupils with different needs for support to mainstream classes resulted in a change in the perception of special education in general. The main purpose of special education was now to teach pupils who needed special support in their ordinary group or class, rather than teaching them outside the ordinary classroom. The pupils' different needs and conditions should now be seen as a natural variation and the school had to meet each individual based on his or her unique experiences, abilities and needs (Nilholm, 2003).

Even teacher education is affected by the changed view on the purpose of special education. The Teacher Education Committee's proposal of new teacher education (SOU 1999:63) states that:

"It is, according to the Teacher Education Committee's belief, that differentiation and individualization issues should be handled within normal education. That is why the school as a whole needs special education support, in, among other things, labour legislation." (p. 192)

The committee's proposal also led to the teacher training being changed so that the area of competence in special educational can now be found at several levels of education. The aim was to strengthen the school's overall special education expertise. The need for skills for teachers who would teach pupils with visual impairment was not accommodated within the normal training due to the small number of pupils. State and local government was therefore given a specific responsibility to provide training in the form of independent courses in collaboration with knowledge and resource centres for pupils with visual impairment. Nowadays the university of Stockholm also has a commission from the government to address the need for educationalists in the teaching of this pupil group (www.esv.se).

Society's support for pupils with visual impairment in school

Municipality's responsibility

The municipality where the pupil with a visual impairment is resident is ultimately responsible for him or her getting an education equal to sighted pupils'. By extension it will be the local school headmaster and the individual class teacher who will be responsible for pupils with visual impairment receiving instruction that is adapted to his or her needs.

Pupils with severe visual impairment in school usually have access to a resource teacher on a full or part time basis. In later grades, the pupil usually has a pupil's assistant in combination with support from a special teacher in school or in the municipality. In the Educational act, chapter 1 § 2 we can read: *"The training shall take account of pupils with special educational needs"* (p. 5) and in the curriculum for the compulsory school system (Lpo 94/95) it is stipulated that schools must make *"every pupil discover his/her individuality"* and that teaching should be *"customized to each pupil's abilities and needs"* (Ministry of Education, 1998, pp. 3, 4). Teachers should also *"encourage, guide and give special support to pupils who have difficulties"* (p. 14). Schools have a responsibility for the staff around the pupil receiving necessary skills development (Education Act, chapter 2. § 7) and that the school's facilities are tailored to the pupil's needs.

County Council's responsibility

The county councils' low vision clinics are responsible for habilitation and rehabilitation of people with visual impairment (Health Care Act, § 3b). The support

should be given interdisciplinarily in the medical, educational, psychosocial and technical areas of expertise. In order to facilitate the daily life and school work for pupils with visual impairment the low vision clinics provide the pupils with optical and technical aids, for example, different types of writing aids and computer adaptations. The low vision clinics also provide training to pupils to enable them to use their facilities in school, but have no responsibility to educate the pupils' teachers. The school can, however, based on the pupils' needs, get support in adapting the environment of the school premises, with, for example, contrasting colours, tactile labelling, lighting and the adaptation of the school playground. Low vision clinics can also provide support for pupils to practice orientation and mobility in the local environment (www.syncentralerna.se).

The national responsibility

The National Agency for Special Needs Education and Schools (SPSM) currently covers the government's total support in special educational needs to staff in the public school system and private schools subject to government scrutiny. The activities are organized into five geographical regions. Each region has counsellors in special education issues. The counsellors have in-depth knowledge in one or more disability areas. The assignment includes, in addition to counselling, cooperating in training and disseminating information to school principals and parents.

The authority consists of five regional and three national special schools and four national resource centres. The resource centres offer special education assessments of children and young people and, among other things, training for school staff and parents. Resource centres have in-depth competence regarding pupils with

- visual impairment with or without additional disabilities
- deafness or hearing impairment in combination with developmental disabilities
- congenital deaf blindness
- severe speech and language disorder.

The Resource Centre Vision operates in Stockholm and Örebro. The Resource Centre Vision in Stockholm (formerly Tomtebodas School's resource centre) generally provides support to children and youth in nursery school, primary, secondary and upper secondary school. The Resource Centre Vision in Örebro essentially gives support to children and youth with visual impairments and additional disabilities who attend nursery school, special or training school. For pupils who read braille the Resource Centre also provides annual pupil courses, where pupils have the opportunity to meet, work on various themes and share experiences with each other. During the pupil courses there are also opportunities for the pupils' parents to attend training.

SPSM includes a teaching material unit, which develops, produces and offers for sale educational products for children and young people with disabilities. Within this unit, teaching materials for pupils with visual impairment are adapted and developed, at a cost equivalent to the original teaching material in ink print. The agency's mission also includes allocating grants to various education coordinators such as folk high schools, colleges and universities (www.spsm.se).

Children and youth with visual impairment

Who is visually impaired?

According to WHO, the visually impaired, as a result of reduced visual ability find it difficult or absolutely impossible to use vision to orientate themselves or read normal printed text, ink-print. The difficulties cause restrictions in daily living and require special adaptations (WHO, 2001).

The term "visual impairment" includes both persons with visual impairment and those who are totally blind. Based on the degree of visual impairment, the group visually impaired can, further, according to WHO, be divided into three sub-groups:

A moderate visual impairment refers to those that have a visual acuity between 0.3 and 0.1 (compared with normal visual acuity, which is designated 1.0). If the person is wearing glasses to correct refractive errors, the value refers to the visual acuity achieved with glasses. A person who is partially sighted can often read normal printed text using various optical magnifiers and by looking at near distance.

A severe visual impairment is when you have a visual acuity between 0.1 and 0.05, and in this group are both braille readers and readers of printed text using magnification devices. Many people with severe low vision use a combination of both ways of reading, and select what is most comfortable in each situation.

With a visual acuity below 0.05 you are considered to have *blindness*. Some people with blindness may have some vision. With only the ability to distinguish light and darkness or without any visual ability at all, a person is regarded as severely visually impaired or blind. The sense of touch and hearing are the most important senses for a person with blindness, and the reading and writing medium is mainly braille, sometimes with talking books as complement.

All children with visual impairment aged 0–19 years are registered, with the parents consent, in a register at the eye clinic in Lund. In 2000 there were 2710 children with a visual acuity equivalent to 0.3 or below in the Children's Visual Impairment Register. In the age group 0–6 years there are fewer children registered, as the visual impairment has not yet been identified and diagnosed in some of these children. It is likely therefore that the group is in fact slightly larger than the numbers indicate.

About one fifth of the total group is severely visually impaired. Over 60% of the total group of children with visual impairment have one or more additional impairments in combination with the visual impairment. It is most common that these children have intellectual disabilities, physical disabilities and/or hearing loss (Blohmé & Tornqvist, 1997, 2000).

Causes of visual impairment

There are many different causes of visual impairment. One way of dividing visual impairment into two main categories is based on the localization of the damage in the visual system.

The damage of the eye or the front part of the visual system is referred to as ocular visual impairment or OVI (ocular visual impairment). Examples of such injuries are different retinal disorders, glaucoma and cataract or retinoblastoma (tumours of the eye). In an ocular visual impairment the inflow of visual impressions is influenced through, for example, reduced visual acuity or the impact on other visual functions such as visual field, colour and contrast perception. However, ocular visual impairment does not cause visual perception difficulties or specific developmental difficulties, unless the child also has some other injury.

A lesion in the posterior optic nerve and/or the visual cortex is called cerebral visual impairment or CVI. With a cerebral visual impairment inflow can be affected in different ways, and visual perception problems occur almost always, in varying degrees. There are also a wide range of other difficulties that may occur in

the child, because the damage that exists can also affect other nearby areas beyond the optic pathways. Multi-disabilities or different forms of learning difficulties are common.

CVI or cerebral visual impairment is currently the most common diagnosis in the Children's Visual Impairment Register (Blohmé & Tornqvist, 1997, 2000). The CVI group has increased sharply during the past 25 years, while the incidences of, for example, cataract, retinoblastoma and ROP (retinopathy of prematurity) have decreased. If you look further back in time, infections, malnutrition and accidents were common causes of visual impairment (Ek, 2000; Norrie, 1927), which do not occur in the same way today. The group of children and youth with visual impairment have changed, and become more complex and heterogeneous. One explanation for this change is, of course, that development has moved forward in the early treatment of various eye diseases, along with increased opportunities to take care of very premature infants. More premature babies now survive, but many of the children suffer brain damage, including loss of sight as a result (Ek, 2000).

Developmental aspects

A congenital severe visual impairment affects the child's overall development in several ways. The implications for development may vary depending on the child's diagnosis. As mentioned above, multidisability is more common in the group of children with cerebral damage. Premature births are also a risk factor for various types of developmental abnormalities, and in the group premature infants with severely impaired vision the number of children with, for example, developmental disabilities, cerebral palsy and/or autism spectrum disorder is high (Ek, Fernell, Jacobson & Gillberg, 1998).

But even when the child does not have a diagnosis that increases the risk for specific developmental problems, the severe visual impairment in itself implies that the child's development will follow a somewhat different pattern than that of a normally sighted child's. The lack of visual impressions means that both skill development and socio-emotional development inevitably take longer. The sense of sight is in many ways a coordinating sense, which gives us an overview, a direct link between objects and concepts and important information about social processes on the non-verbal level. To understand the outside world and to acquire new knowledge, concepts and practical or social skills, is a complicated process when this must be done through the other senses.

The early social development, in particular, is very dependent on vision, and the young child learns social skills largely through imitation and visual cues (Webster & Roe, 1998). For the child with severely impaired vision, this will not happen automatically and others in the surroundings must actively demonstrate and teach the child what is expected and how to act in various interactive situations. It is important to encourage children to be active and to take initiative, rather than to passively wait for something to happen. How can I make contact? How do I find out what is going on around me? How can I contribute in play and interaction? It's important for children to learn how to deal with questions like these (Sacks & Wolffe, 2006).

The lack of access to visual information and ability to read the visual codes of interaction continues throughout life to be a limiting factor for a person with severe visual impairment. The implications of this are, of course, important to be aware of, and both the family and other individuals, such as school teachers, need to contribute in various ways to support the child in its development (Sacks & Wolffe, 2006).

Reading and writing media for pupils with visual impairments

Braille – a tactile code for written language

Braille is a tactile code for written language for people who cannot read ink print. In many languages it is called Braille after its inventor Louis Braille (1809-1852). A braille character consists of a combination of six raised dots arranged in two columns with three dots in each, called a braille cell. The size allows for the fingertip to feel the entire character.

The dots in the braille cell are numbered from one to six and can be combined in 63 different ways (Figure 1). Since all the letters, numbers and symbols found in ordinary print must be represented, it sometimes takes two or more braille characters to represent one unit. This applies, for example, where the letters a – j are preceded by a so-called number sign, which then gives these characters the meaning of numbers.



Figure 1: Magnified braille cell and the word "punktskrift" in normal size

Reading braille

When a text is read with the eyes, an interaction between eye movements and pauses occurs. It is during the pause that perception takes place, and during the fixation the reader registers groups of letters. In tactile reading perception takes place when the fingers move over the text. The individual braille sign has been considered the largest perceptual unit, and the reader discriminates the shape that the dots form (Nolan & Kederis, 1969). This means that, especially the beginner, decodes *letter by letter* in order to read a word. Recent research suggests that the reader, instead of the shape, registers the pattern which is created in the space between the dots of the individual sign and between adjacent characters (Millar, 1997).

Decoding skills and reading speed are perhaps the particular factors in the reading process that separates ink print and braille most. A good braille reader reads roughly half as fast as a skilled reader of ink print, partly because of the special way of reading and the difficulty of getting an overview of the text.

Writing braille

Specific writing tools are used in the production of braille. The mechanical braille machine (in this text also called "Perkins", after the producer), has six keys, each of which represents a dot in the braille cell. The child must learn the relationship between dots in the cell and keys on the machine. Writing with the mechanical braille machine is less flexible than writing with pen on paper. Making changes to the text is very difficult, especially for beginners.

Apart from the mechanical typewriter, the computer has become a common tool for the braille reading pupil from first grade or in some cases even earlier. The equipment may vary, but common to them is that the information in ordinary writing on the screen is presented on a braille display. The great advantage over the mechanical braille machine is that it is easy to modify the text and then print an error-free text (Agélii & Rönnbäck, 1998).

The beginner starts with a computer keyboard, similar to that of the mechanical typewriter. The pupil's computer equipment is also often connected to an ordinary keyboard. This means that it is possible to write on two keyboards in parallel. The teacher and the braille reading pupil or two friends can then produce a text or perform a task together.

Magnifying television system, CCTV

For the pupil who has some vision, and who, in addition to Braille, can also read ink print, there are different types of optical devices that increase the ability to access ordinary text, such as strong lenses and magnifying glasses. A magnifying television system, CCTV (Closed Circuit Television), gives the pupil the opportunity of getting text and images greatly enlarged on a TV screen. A distance camera can also be connected to the magnifying TV system or the computer screen. It makes it easier for the pupil to follow what happens in the classroom, maybe looking closer at a face or zooming in on what the teacher is writing on the blackboard.



Theoretical starting points

In order to understand and explain a complex reality, it is important that the empirical research results are interpreted from several theoretical approaches or levels. The purpose of the theory is to describe, explain and understand individual events at a more abstract level. Theory in this sense is defined as a group of related representations, which together have the potential to explain or predict human behaviour in a systematic way, based on facts (Teorell & Svensson, 2007).

As the project has an interdisciplinary approach, we have chosen three basic theoretical perspectives as starting point in the formulation of the project questions and in the interpretation of the results of both the studies:

The systems theory perspective emphasizes the importance of regarding children's development and different environments where they grow up (home, school and community) as a whole, where the individual and the environment are in constant development and the different contexts and relationships in the child's life influence, and are influenced by, each other in a continuously interacting, on-going process.

The socio-cultural perspective takes into account the child's physical and mental preconditions, but builds even more so on that all learning occurs in interaction with others and that the development is affected by special circumstances in the child's environment.

Finally, we have also chosen a *developmental psychological approach* to highlight the importance of a child's emotional development to understand his or her overall situation. By highlighting some key development issues during the school years, we add a dimension that can contribute in the interpretation of the child's experience of, and functioning in, the larger context. To conclude, even the specific conditions for the child with disabilities are highlighted in terms of the emotional development.

A systems theory model

The American psychologist Urie Bronfenbrenner has developed a developmental ecological model, which emphasizes the importance of ensuring the interaction between the individual's own circumstances and the environment he or she is part of as important prerequisites for the entire development (Andersson, 1986).

Bronfenbrenner sees the environment as a hierarchical composition of structural factors and he has developed a theoretical model that describes the various levels of society and how they affect each other. In the centre of the model is the child with its inborn biological characteristics. The child is in different *micro-systems* such as family, school and peer group. The micro-systems interact constantly with each

other, and how this interaction works, will influence both the child and the various micro-systems. The relationships that develop between different environments in the system are known in the model as the *meso-level*. There is a constant mutual influence going on between the different environments in the system and the more contact there is between the different systems the more important they get for the child's development.

At the next level, we find what Bronfenbrenner calls the *exo-system*, which describes the local community that accommodates the various micro systems. The conditions for how home and school work and their interactions, can look different in a small community compared to a major city. Different kinds of societies can have different ideological, economic and political framework. Political decisions about how a particular activity, such as school, should be carried out will, of course, have both direct and indirect impacts on the reality that the child is in.

Bronfenbrenner's developmental ecological model thus describes how biological, psychological and social factors constantly interact with each other, and in each instant the interaction is affected by results of previous interactions. A theoretical model that spans so many areas becomes difficult to apply in practice, its greatest significance may perhaps be to give a sort of overarching theoretical perspective. It needs to be supplemented by alternative theories which can in a more precise way describe various aspects of development (Broberg, Almqvist & Tjus, 2003).

Socio-cultural theory

The socio-cultural research perspective, take its principles from Lev Vygotskij's (1896–1934) thoughts on the importance of interaction in all learning. Personal development occurs according to Vygotskij in the relationship between child and adult, especially parents and teachers, and strives for cultural understanding (conceptual world). The cultural understanding is what Vygotskij describes as *internalization*. For a child to internalize concepts and knowledge it needs to be taught and to have good relations with adults such as parents, teachers and other role models. Vygotskij has also affected the constructivist thinking about learning, which stresses the importance of the child itself, supported by the adult, being an active partner in the creation of new knowledge. In the individual activity, the child gets support to move further away from the adult, building a kind of scaffold, as a supportive strategy for the child's exploration and search for new knowledge (Säljö, 2000).

Children with visual impairment often need more support and guidance in the learning situation than sighted children. Adults must in a responsive manner, without taking over too much responsibility, adapt and adjust the teaching so that the child is stimulated, as much as possible, to discovery and problem solving on its own. Children also learn from each other by observing and imitating how other children solve a problem. For children with visual impairment a special problem occurs in this respect, because many communication signals between children are visual. Adults need in this respect to be models for the child and to verbally give the child the guidance that is necessary (Webster & Roe, 1998).

Webster and Roe describe, from the basis of their research, the interplay between child and adult in different learning environments. The interaction in the learning situation is characterized by varying degrees of activity and passivity of the child and different degrees of leadership and control from the adult. The model can help to better understand the complex situation that arises for the child with visual

impairment, whose condition for being active and involved in the learning situation often depends on getting a lot of support and help from the adult. The situation thus demands of the adult to be responsive to the child's needs and perspectives in order to understand when the child needs support and when the adult should stay in the background.

The researcher Ulf Jansson (1999, 2004) distinguishes between two types of relationships that the child gets involved with in the nursery school or school. First, the *vertical relationship* that is based on a responsibility and authority in the relationship between child and adult which may relate to the relationship between parents and child or between pupil and teacher. The vertical relationship has a nature of dominance – dependence, associated with the adult authority. In the *horizontal relationship*, however, actors meet who are relatively equal in power and status. The horizontal relationship is governed by weak means of power such as persuasion and negotiation, and reciprocity is created out of a shared responsibility for the activity or task that the relationship develops around. In nursery school and school the child meets both a vertical caring culture, where the child is subject to the staff's caring responsibilities and a horizontal play culture where the child, with peers, negotiate his or her experiences of a common reality. The goal of inclusion of children with different functional conditions is that the child will gain experiences of more horizontal cultures, as children with disabilities often have more experience with adult-driven care cultures than children without disabilities.

Developmental psychological theory

Erik Homburger Erikson (1902–1994) is one of the most notable names in psychoanalytically oriented developmental psychology. Erikson spoke of development as something which includes the whole life, and described eight distinct phases of development, where one can attain either a predominantly good or a deficient development in each phase.

Every phase is characterized by a specific developmental crisis or conflict, and the way the individual handles these conflicts will be critical for the continued personal development. In order to have good conditions to undertake new developmental themes, the preceding crises must be resolved in a satisfactory manner. The solution of the conflict depends on the interplay between the individual's resources and external factors in family and society (Erikson, 1963).

The child spends the early years up to the age of six in building important developmental cornerstones, such as basic trust, autonomy and initiative. Then, during the school years, according to Erikson, the child experiences two distinct phases of development. During what is referred to as the early school years, that is when the child is between 6 and 12 years, a central theme in the development is *competence* and the basic conflict of development is about activity versus inferiority. During this period children must be able to experience that what they do is good enough and that they are able to seek and acquire knowledge on their own, and to be with others. A negative development in this phase means that the child establishes a sense of inferiority. The child doubts his own ability and does not think he or she can handle things independently. The consequence may be a low self-esteem and a sense of not being good enough.

During the latter part of the school years and the beginning of adulthood, the youth being 13–20 years of age, the next phase of development occurs. Erikson

argued that the search for an identity is a basic human need, and during adolescence the developmental theme and conflict is about identity versus identity confusion. Without a previous positive crisis resolution, it is difficult to build a stable identity during adolescence. Teenagers' crisis resolution also affects how he or she as an adult will be equipped to deal with other crises. According to Erikson, identity consists mainly of three sub-aspects: *biological* identity, which includes such things as gender, appearance and body image, *psychological* identity, which houses our unique feelings, interests and needs, and *social* identity, which is about how the environment provides opportunities for diverse expressions of identity.

The development of these three components of identity occurs in the beginning in the small child, in an uncritical way, taking in the image of itself, that parents and others in the environment convey. When the child gets older the development of identity occurs increasingly through the child's identification with others. Erikson believes that the key to a positive resolution of this developmental crisis is in the interaction with others, both peers and adults in the surroundings. An optimal identity development means that you can find social roles and groups that fit well with the biological and psychological conditions of your own. A negative solution can, on the other hand, result in an unclear identity development or a negative identity, where you build identity on a kind of contradictory status, for example by striving to be different from what is expected of you. (Erikson, 1963).

Emotional development in children and adolescents with disability

The child psychiatrist Berit Lagerheim's book "*Att utvecklas med handikapp*" (To Develop with Disability, 1988), based on her clinical experience and research, discusses possible complications in the emotional development of children with various disabilities. For a child with severe visual impairment this means that, for example, lack of eye contact in early development will result in a reduced ability to build internal images of family and the environment and basic security and trust - that is what Erikson (1963) and other developmental psychologists believe is the essence of the emotional development. It is therefore particularly important to initially improve the connection with other senses.

One possible complication later in the development of children with disabilities is the process of liberation and progress towards independence. Many children with disabilities remain longer in a dependent relationship with their surroundings, affecting identity in different ways. The child with severe visual impairment has, during the first years, in many ways, a greater need for closeness than the fully sighted child has. What is happening in the surroundings is difficult to grasp when you do not have vision to help, the small world and the close one-to-one relation is at first quite enough. Eventually one should encourage the child to venture out to explore the surroundings and prepare to become an independent individual, who dares to be active and takes initiative. In this process the interaction with the environment is crucial, since it is about stimulating the child's attempts to attain liberation and also to dare letting the child go. The impulse to protect – and to over-protect the child with disability from dangers in the surroundings can be strong, and might restrain the child in its development of independence (Lagerheim, 1988).

During the early school years, the child, as described above, needs to build feelings of being capable and competent. Children compare themselves to each other, match up and compete. The requirements – both cognitively and socially – are suddenly

higher in school than in early childhood and nursery school years. Lagerheim points out that for a child with a disability the start of school can mean a fairly dramatic change, which takes up a lot of work and energy. During primary school years it is also common that the child with a disability begins to discover the feeling of being different. This is also linked to cognitive development, and that the child can now see himself as part of a larger context in a new way.

School start is perhaps the first clear turning point when the child might react and think deeply about his disability. The age of nine is another period when many existential questions are relevant for all children, and when the child with a disability often reflects more than usual about himself. After having studied the phenomenon, Lagerheim means that four out of five children with disability or chronic illness have some kind of crisis during their school years as a reaction to their different conditions. Most commonly this crisis is reached sometime between 8 and 10 years of age, and that is why the term nine year crisis is used to describe the reaction of these children (Lagerheim, 1983). The next distinct phase is the onset of adolescence, when development of identity is the major developmental theme, and a new crisis may present itself. Emancipation is again central to adolescence, and, in many cases, the feeling of being dependent on others may be filled with conflict to the youth. During the school years, it is very important that people around are aware of the development issues essential for the child, and what specific difficulties that may arise for the child with a disability (Lagerheim, 1988).



Previous studies

We have chosen to highlight some examples of current Swedish studies involving both inclusion of pupils with disabilities in general and the inclusion of pupils with the specific disability severe visual impairment or blindness. The studies described have the common purpose of mainly considering the possibility that pupils have to participate in the classroom. Studies that focus on free activities were deemed to fall outside the scope of the study, which is why such research is not highlighted here. The review was limited only to Swedish studies, as school systems and other matters relating to pupils with disabilities vary widely between countries.

The school's learning environment for pupils with severe visual impairment or blindness

The learning environment in school for pupils with severe visual impairment who read braille is illustrated in a number of Swedish studies. In a qualitative study based on video observations of the learning environments for four pupils with severe visual impairment or blindness in secondary school some areas were detected of particular importance for the opportunity to share in the group community (Söderberg, 1999). The results show that the choice of working methods greatly affects the ability to include pupils with visual impairment. An environment in which an active search for knowledge is stimulated and the pupil's curiosity exploited seems especially to benefit the pupil. Söderberg points out that it takes great commitment from staff, reasonably large groups of pupils and a well thought out and structured pedagogy. The treatment of the pupil is another factor to notice. There is a clear link between the treatment and potential for developing a realistic self-image.

Individual pupil characteristics such as initiative and motivation are according to Söderberg of particular value to become part of the fellowship. The qualities are, of course, closely tied to the individual but can also be encouraged and stimulated by the surroundings. Finally, Söderberg points to teacher characteristics that are of positive significance. It is crucial that the teacher feels secure in his role and that this is based on an obvious division of responsibility between colleagues. Teacher commitment to the pupil and his needs is also important for a positive inclusion in the learning environment (Söderberg, 1999).

In a study which illuminates the young braille reading pupil's learning environment it is emphasized that an educationalist who teaches a pupil with severe visual impairment or blindness needs specific knowledge in this field. (Rönnbäck, 2003). The study is based on questionnaires from teachers who taught a braille reading pupil in second grade a reading observation with all pupils in the actual age group as well as qualitative data through depth interviews with four strategically selected teams from the total group.

The study showed that staff availability around the braille reading pupil was good with an extra teacher resource in the learning environment. Educational background of resource teachers varied, half of them were primary school teachers and the other half nursery school teachers or youth workers/recreation pedagogues. The latter two teacher groups wanted further training on the methodical approach of braille instruction.

The study also showed that the resource teacher had to take primary responsibility for both planning and execution of the pupil's reading and writing instruction, a teaching which to a certain extent was carried out individually outside the classroom. Most of the pupils in the study group read text in braille at a low reading rate, which according to the author is a factor that makes it more difficult for these pupils to get involved in the learning. For several pupils who also read ordinary printed text, motivation for braille was low, and for this group of pupils a well-structured reading and writing instruction is required. The braille reading pupil was judged by the teachers in the study to have a passive role during reading and writing operations. However, in a small group led by a teacher, the pupil's activity increased (Rönnbäck, 2003).

Knowledge and skills, participation and independence are some of the aspects that emerge in a study where braille reading young people reflect on the braille phenomenon in a sighted environment. Johansson (2007) has interviewed in depth seven braille reading young people and the answers are reflected in so-called life world stories. When the youths look back at their school period a majority of them emphasize teacher-led instruction and structured tasks, as being especially beneficial for the opportunities to feel involved in the learning. But they also express that a more liberal approach with searching for information on their own can be valuable, provided the information is accessible and that the technical tools work.

Several youths remember sighted classmates sometimes expressing dissatisfaction with too slow braille reading, and reading aloud is something that several of the interviewees still avoid. Almost all the young people in the study experienced teachers' demands and expectations, especially in secondary school, in general, as being too low. Johansson says that teachers need knowledge about the consequences of disability in order to put the right demands and make correct assessments of the pupil's performance.

The computer as a teaching tool does not only provide opportunities to develop pupils' reading and writing, but may also contribute to increased social interaction between pupils with visual impairment and sighted classmates. These are some of the results from a national computer project in which the computer's impact on the learning environment for 17 braille reading pupils in grades 1–4 were studied (Felleinius, 1999). The majority of teachers in the survey felt that the computer had affected peer relations positively. The degree of cooperation could have several causes, for example, it could depend on the pupil's overall social competence, pupil's level of knowledge, the physical environment design or the teacher's way of working. The study showed the need to establish a continuing training plan for pupils, teachers and parents so that the computer can be managed from a technical but principally from an educational perspective. The responsibility for this support must be clearly stated and identified.

Participation in the school situation for children with disability

Children and young people's experience of participation and their situation in life has in a research project, consisting of several sub-studies, been studied on a group of about 700 pupils with disabilities (Granlund, Almqvist, Eriksson, Luttröpp & Björck-Åkesson, 2003). Children's and young people's experiences have been compared to how their teachers, parents and special education advisors judge their participation. In the project the concept of participation is defined based on three dimensions: feeling/experience, activity/acting and conditions/environment. The dimensions merge into part concepts such as self-esteem, community involvement, communication/getting information, self-determination, conditions for participation and environmental conditions.

In one of the sub-studies the aim was to investigate participation in school activities (Eriksson, 2006). Focus was on individual factors and environmental factors closely related to participation.

The results are based partly on a survey in which information was collected from pupils, teachers, parents and special education advisors and on an observation study in which participation was examined in various school activities during an entire school day. After school hours the children were interviewed about how they viewed their school day as well as friendship and autonomy.

The results show that children and adolescents with disabilities often have a lower level of participation in school activities compared to their classmates. Participation in this study appears to be more related to pupil autonomy and interaction with classmates and teachers than it is to type of disability, and to the general school environment. According to the results it appears that pupils with disability have a lower degree of participation in certain school activities such as mathematics, practical subjects and general subjects. It is also important to be observant of how the support around the pupil is structured. A close support of teacher and assistant may have a negative effect on participation in the peer group, while having a large social network has a positive impact.

A pupil perspective on inclusion

Conditions that pupils themselves highlight as important for inclusion in schools are the same as many believe are important for good schools in general. This is the result from a study in which pupils, with and without disabilities, were interviewed in groups about their views on participation and equality in school (Göransson, 2008).

The study group consisted of 34 pupils in secondary school. The pupils were interviewed in focus groups with five to eight pupils in each. According to these pupils the basic factor for feeling comfortable is that there is a good atmosphere in the school between pupils themselves and between pupils and school staff. The pupils point at some factors specifically important for developing interaction, relationships and fellowship, including the need for an active and available psychosocial support, and furthermore that the adults are visible in the school, in corridors and lounges. School work should be interspersed with activities of a more social nature and there should be various activities to do during breaks. In order to increase interaction between pupils and participation during lessons, the pupils point out that group work should not only be organized within the class but also between classes. This is for pupils to have the opportunity to get to know pupils they might otherwise not meet and that activities are planned so that everyone can participate equally.

Göransson (2008) also points to a number of dilemmas that emerge in the discussions in the groups of pupils. On the one hand, there is the need for additional adult support in learning, on the other hand the adult can be a hindrance in peer contacts. The feeling of security in a small teaching group with pupils with similar disabilities is balanced against the desire to be like everyone else and belong to a larger collective community.

Another dilemma is that the school's activities are characterized by, on the one hand, policy documents with national targets which all pupils must achieve and be evaluated by, and on the other hand, by governing documents concerning everyone's right to participate and the importance of considering the diversity of children. These dilemmas are important to reflect and necessary for the surroundings to relate to, so that each pupil will get his or her needs met in the best way.



Method and implementation of the project

Choice of methodology

In all research it is important to consider what issues the present study aims to elucidate, when choosing the method for data collection and analysis. As in this project there has been a wish to both describe and, to more deeply, understand and explain different phenomena, both quantitative and qualitative data have been collected. As the exploratory and the qualitative research approach, both have their complementary strengths and weaknesses, there is an advantage in combining these two perspectives, and in this way try to convey an image that provides both breadth and depth (Teorell & Svensson, 2007).

In the first substudy that is intended to provide a description of how the learning environment around the group of braille reading pupils is organized as well as examine how teachers perceive pupils' participation in the classroom, a quantitative approach has been chosen. Data collection through questionnaires was judged to be the most useful way to reach a larger group and collect measurable data to produce both a broad survey and also to examine possible links between specific variables. There are several advantages in the questionnaire as data collection method in this type of study. Firstly, this is obviously the most reasonable way to get in contact with a large group, spread across the whole country. Furthermore, the questionnaire is not afflicted with some of the risks that may exist with other data collection methods – there is no interviewer effect, the questionnaire is exactly the same for everyone - and the respondent himself/herself can choose the appropriate time to answer it. Disadvantages, however, which you need to be aware of, can be, for example, that the drop out is always greater when using a questionnaire, and that questions can be misinterpreted, and that you have no control over who actually answers the questionnaire (Teorell & Svensson, 2007)

For a more in-depth understanding of the factors relevant to each individual pupil's ability to participate in various learning situations in the classroom, a qualitative approach was chosen for the second part of the study. This substudy is a longitudinal case study comprising seven pupils, their teachers and parents, and here the emphasis has been on trying to create awareness and understanding of how both the pupils themselves, their teachers and parents perceive the situation and how this process works over time. For the case study it was judged that the qualitative research interview would be best suited as a method, since it often takes place in the form of an everyday conversation in which the interviewer directs and focuses the interview on a number of important topics. It gives an opportunity to consider broader and more diverse empirical data, compared to a questionnaire study (Carlsson, 1996)

A semi-structured interview form was chosen, in order to combine a frame of fixed issues with the ability to follow up reasoning over time and ask supplementary questions, which we considered a great advantage. We also saw other benefits of the qualitative interview session with the participants in this type of study. This situation makes it possible, for example, to avoid misinterpretations of questions, by directly being able to clarify ambiguities. The risk that is predominantly present with this method is, of course, the interviewer effect (Teorell & Svensson, 2007).

When data collection is carried out, it is always important to ensure accuracy and reliability in terms of data collection methods and analyses carried out (De Poy & Gitlin 1999). Regarding the survey, the project has had the help of a statistician to develop the questionnaire and create a usable instrument. In the data processing, reliability and validity of key issues have been secured by factor analysis.

In a case study with a qualitative approach, it is, of course not possible to make a corresponding measurable control of instrumenta or results. However, we have used different techniques to seek to increase the reliability, and thus the usefulness, in the material. First, several persons have together gone through all the material, which we consider a strength. Furthermore, we have used different data collection methods to strengthen our impressions (DePoy & Gitlin 1999). For this purpose the interviews have been supplemented by video observations.

Selection and implementation

The entire population of children and youth with visual impairment is small in number and the group of braille readers even smaller. This made it possible to conduct both studies as total investigations, which increases the possibilities of drawing generalizable conclusions from the material.

The questionnaire includes all 82 elementary schools with a braille reading pupil in second to ninth grade in a specific academic year. The respondents are class teachers and resource persons, who through a written questionnaire have been answering questions about how the learning environment of their pupils is organized, and how they measure pupils' participation and activity in various respects. The questionnaire consisted of 60 questions with both fixed and open answering alternatives.

In the case study an entire age group of braille reading pupils has been studied during their first three years of elementary school. The project team has visited the seven pupils in their schools once a term. Pupils, teachers and resource persons were interviewed at each visit, and at the end of third grade, the parents were also interviewed. The focus of the interviews has been various factors on pupils' participation, and pupils' own perception of their situation at school. As a supplement video observations have also been conducted at each visit.

A more detailed account of the implementation will follow in connection to the result reports of each sub-study.



Ethical considerations

To ensure individuals' integrity it is important to consider the ethics in research. The Research Council for the humanistic and social science has adopted a set of ethical rules designed to protect the individual against undue scrutiny. A consideration that always has to be taken is to provide individuals, involved in the project, with information and possibility of consent. In addition confidentiality of the collected material must, as far as possible, be guaranteed. Nor must the data collected be used for any other purpose but for research (www.vr.se).

The target group for this project, pupils in compulsory school, who read braille, is a very small group. This means that individuals may be relatively easy to identify, particularly for people who are professionals in the field. Therefore, possible measures have been taken in the two sub-studies to make it impossible to identify individuals. It has also been important to provide written information on the project's purpose and structure to persons concerned on several occasions.

The survey that forms the basis of the first substudy has been answered completely anonymously and does not contain any data on school names or locations, and all the collected material has, of course, been treated completely confidentially. Letters of information have been pre-sent to all parents and principals at the schools.

In the case study, all names and other personal information are fictitious and the actual year for the pupils starting school is not listed in the report. Names of schools and city locations do not appear anywhere in the material. Parents received written information about the project's purpose and structure at several times during the project period. All families have provided written consent to their children being allowed to participate in the study. Principals and teachers have been informed in writing in advance with the opportunity to decline participation. All collected interview material has been treated as confidential, and our hope is obviously that it will not be possible to identify individuals.

In the case of collected video observations the parents of the pupils concerned have again given a written consent for the children's participation. Since other pupils in classes may occur in our video material, all concerned parents have been informed by class teachers.

The results of both studies will, in addition to the presentation made in this report, be used within activities at Resource centre vision, especially in the training of teachers who are going to teach braille reading pupils in compulsory school.



The questionnaire

Purpose

The first sub study is based on three primary aims. In the beginning the ambition was to develop a survey of the learning environment for braille reading pupils in compulsory school. This survey focuses primarily on factors such as resources and tools. Furthermore, the aim of this study was to examine how teachers perceive the braille reading pupils' participation in the classroom. Linked to this sub-purpose was to develop a quantitative measurement of different issues which together measure teachers' perceptions of braille reading pupils' participation in the study environment. It should be noted that the estimate of pupils' participation was made by class teachers, resource teachers and/or assistants, thus not by the pupils themselves. Pupils' own perceptions are instead illustrated in the second part of the project, which is an in-depth qualitative examination of our questions in the form of case studies. Finally, the first sub study also aimed at examining whether teachers' estimates of visually impaired pupils' participation in the classroom are linked to other factors in the learning environment. These factors can be both physical and psychological in nature, such as access to appropriate computer equipment, gender, age or parental expectations regarding their children's participation in the classroom.

Study Group

The selection was based on data that Resource Centre Vision has available concerning the elementary school pupils who read braille and therefore have regular contact with the centre. To our knowledge, this includes all braille reading elementary school pupils in the country.

In summary, the criteria for inclusion in the sub-study were the following:

- The pupil has blindness or a severe visual impairment.
- The pupil was recommended braille as main reading medium before the start of school.
- The pupil goes to elementary school.
- Pupil's only or major disability is visual impairment.

Pupils with extensive multiple disabilities and pupils who, at that time, were placed in a special school for pupils with learning disabilities or in other special group/school are not in the study, as they, in our view, fall outside the purpose of the study, the purpose being to illuminate factors of relevance to the braille reading pupil's participation in the class room in the elementary school environment. Table 1 summarizes the sub-groups included in the original mailings.

Implementation

In the middle of the year of 2000 a questionnaire was sent to all 82 elementary schools in Sweden, with pupils with visual impairment who were braille readers either completely or partially, placed in any of the grades 2–9. The questionnaire was addressed to the school headmaster, with a request to forward the questionnaire to the teacher of the pupil with visual impairment. In the questionnaire was an instruction to indicate who had answered the questionnaire – class teacher, associate teacher/resource teacher and/or assistant. The parents of the pupils concerned were informed by letter about the project in which the survey was included.

In view of the possibilities of participation for pupils with visual impairment in elementary school an exploratory approach was adopted regarding the questions in the survey. Guided by the theories previously described a number of questions were generated that were considered to reflect the aims and issues of the project. The questionnaire comprised 60 questions, some open and others with set alternative answers.

Response frequencies and drop-outs

After a reminder had been sent out, a total of 61 out of 82 questionnaires were received, giving an overall response rate of 74 percent. Of the total 21 drop-outs five of the schools contacted us, and explained that they were unable to answer the questionnaire. Three pupils had progressive diseases leading to very special circumstances for the learning. One pupil had been transferred to a special school, while another pupil had joined a folk high school. There is no further information about the other 16 falling-offs. For a more detailed picture of the frequency response in the sub-study, the population receiving the questionnaire has been broken down into subgroups. The response rates are presented in Table 1, where, for example, it can be noted that the drop-out rates were slightly lower in second and third grade compared to grades 4–9.

Table 1. Dispatch and drop-outs

	Grades 2–3		Grades 4–6		Grades 7–9		Total	
	Sent out	Returned	Sent out	Returned	Sent out	Returned	Sent out	Returned
All	18	15	37	28	27	18	82	61
Boys	9	8	15	12	11	10	35	30
<i>No. blind</i>	2	1	4	4	4	4	10	9
<i>No. sighted</i>	7	7	11	8	7	6	25	21
Girls	9	7	22	16	16	8	47	31
<i>No. blind</i>	5	3	5	5	9	4	19	12
<i>No. sighted</i>	4	4	17	11	7	4	28	19
Drop outs (by group)	3 (17%)		9 (24%)		9 (34%)		21 (26%)	

An exploratory survey of the pupils' learning environment

The following section presents frequencies for the responses to the issues related to staff resources, technical aids, participation and activity in various forms of work, individual instruction, educational support and further training, reading and writing skills, and school subjects which, from the teacher experience, means fewer opportunities to create participation in teaching. We believe that this material constitutes a descriptive basis for pupils' learning environment and study

situation. The descriptions can also be considered to reflect the organizational prerequisites for pupils to achieve participation in their studies.

Staff resources

A majority of respondents (87%) say that in addition to the class teacher, there are additional staff resources available for pupils with visual impairment for an average of 75–100% of the school day, that is to say, most of the day. Three percent of the pupils were reported to have additional staff resources for 50–74% of the day, 2% for 25–49% of the day and 8% for 0–24% of the day. A fifth of the respondents state that their students have support from a specialist teacher at school.

Computer equipment/technical aids

Of the 61 respondents 59 stated that the pupil with visual impairment has access to an adapted computer equipment. Of these there are 53 who have computer equipments with braille adaptations. Six pupils, for a variety of reasons, no longer use braille. Two pupils in the lower grades completely lack computer equipment, and the reason for this is that they have not yet had time to get it installed.

More than three-quarters of the pupils (83%) have their equipment placed in the classroom, while the others have their equipment in facilities outside the classroom, such as resource rooms. Just over half of the pupils (51%) are judged to master their computer equipment independently. Others need support from an adult to some extent when the computer is used.

Figure 2 and 3 show the extent to which the computer equipment is used in teaching, and how often the pupil with visual impairment works together with a sighted companion at his computer.

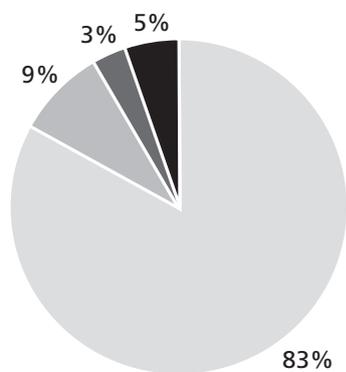


Figure 2. Frequency of braille-reading pupil's use of adapted computer in the teaching situation. N = 59

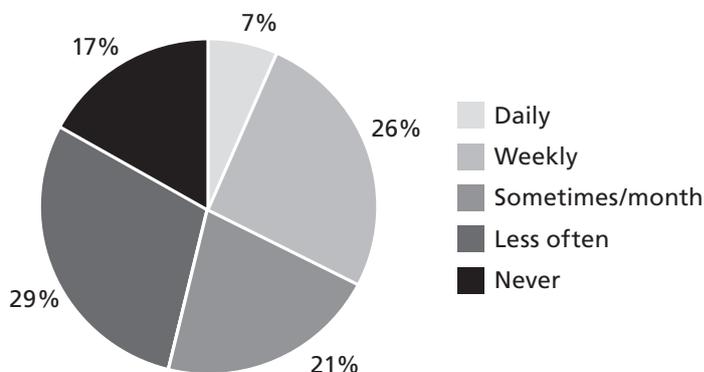


Figure 3. Frequency of co-operation between braille reading pupil and classmate at the computer. N = 58

When asked whether respondents perceive the pupil's technical aids as an opportunity or an obstacle to the exchange and cooperation with fellow pupils, a predominant part of the responses are positive. Of the 55 respondents who answered the question, more than three quarters (78%) see significant opportunities in computer equipment and other technical aids, such as the distance camera. But some negative aspects are also mentioned as comments to the issue - some experience, for example, that the technology often malfunctions and that it is difficult to get support. Clumsy and bulky equipment is also perceived as cumbersome by some, as it takes up a lot of space in the classroom and the pupil "disappears" behind his equipment. Disturbing noise from the equipment is also mentioned by some.

Participation and activity in various ways of working

The respondents have ranked forms of work such as teaching of whole class, work in groups of 3–4 pupils as well as working in pairs, according to how involved they feel that pupils with visual impairment are. A majority (69%) believe that pair work is the way of working in which their pupils are most involved. In second place is team work and lastly work in whole classes.

When the issue concerns the pupils' degree of activity in the execution of a task, the assessments look a bit different. In addition to whole class, group and pair work there is also individual work included. The individual work turns out to be the form in which the majority (75%) say that the pupils are most active. The pupils are also judged to be active working in pairs. Finally, slightly more pupils are reported to be more active in teaching of whole classes than in group work with 3–4 pupils, which in this case ends up last.

Individual tuition

In most cases (87%) the pupils are reported to have access to a group room in the vicinity of the classroom. A large number of respondents (89%) indicate that the pupils with visual impairment are sometimes taught separately in the group room or in other locations in the school. When asked in what situations/subjects individual tuition is applied, reading and writing and training of reading techniques are particularly emphasized (in 63% of cases). Mathematics, especially laboratory work, are mentioned by many (41% of cases), and some specifically mention situations where you in different ways need instructions to be clarified, explained, and when you have to engage in dialogue with the pupil (13%). Tests and homework are also mentioned by a few (7%), as well as working with pictures and maps (9%).

When respondents are asked about why the pupil needs to be taught separately in the aforementioned examples, a third (31%) mention peaceful working environment as an essential factor. From the teachers' comments it appears that pupils with visual impairment are often disturbed by the other children in the classroom, and several describe that the pupil himself often takes the initiative to work alone in order to concentrate better.

Another aspect raised is that the *other* pupils in the classroom may be disturbed in different ways. Just over a third of respondents (37%) mention this as a reason for pupils with visual impairment to sometimes be taught individually. Examples of situations that can be perceived as disruptive to their classmates, is when the pupil needs to have a dialogue with the teacher and talk about different things. This may involve extra explanations and clarifications, or verbal descriptions of illustrative material. Reading aloud is also mentioned - when the pupils practice reading techniques reading aloud is widely practiced, which can be difficult to implement in the classroom. Technical equipment that makes a sound, for example a Perkins machine or a computer with synthetic speech, may also be disturbing.

The time factor is finally mentioned by some respondents (9%). As some school assignments will take longer for pupils with visual impairment, they sometimes choose to work individually so as not to get stressed out, for example, by not keeping up with their peers.

Educational support and further training

The regular support to schools is provided mainly by advisors from SPSM and the County Council's Low Vision Clinics in the local community. One third (33%) of the schools have contact with advisors once or twice times per term, and just over one tenth (13%) meet an advisor once a year. Others have no contact with any advisor. Similar

figures apply to contact with low vision clinics, where 36% of schools indicate that they have the support of a clinic once or twice times per term and 12% of schools receive support once a year, while others say they have no contact with the low vision clinic.

Some schools report that they also have contact with child habilitation or a municipal special education resource team. Seven percent of schools have contact with child habilitation once or twice times per term and 4% once a year. Others, that is to say, the majority, have no such contact. Regarding the support from the local resource team, 11% of schools say that such support is given 1–2 times per term and 4% say once a year.

The majority have no contact with the local resource team. Just over half of the respondents (57%) say they, once or twice a year, participate in a course, group visit or receive individual teaching support concerning the pupil, from the Resource Centre Vision. Just under a fifth (17%) have more frequent contact with the Resource Centre, once or twice times per term. Some also say, as a comment to the issue, that they often take spontaneous contact by phone or email with Resource Centre Vision, when they have questions about their pupil.

Examples of other support that some schools say they have access to, to a varying extent, is for example, support by the school nurse, school psychologist or school social worker, disabled sports association or additional IT support.

When asked if respondents are satisfied with the external educational support offered nearly three quarters (72%) say they are substantially satisfied. Support, that the remaining 28% mean they lack, are for example, regular meetings or networks for teachers, more regular educational topic-oriented support as well as more time to consolidate their own knowledge, especially around technical equipment. A contact person of their own at Resource Centre Vision is also something that is requested. Some of the respondents state that it is sometimes difficult to know whom you should approach with different issues, and ask for greater clarity.

Reading ability

In the material it is stated that 34 pupils are users of only braille, while 19 pupils use a combination of braille and ordinary ink print. Eight pupils have been combination readers but are now, for various reasons, using only ink print in school. Respondents make an estimate of pupils' reading skills in braille and, where appropriate, also in ink print. Assessment is made in relation to the average reading ability in the class according to the criteria *very much below*, *below*, *equal to*, *same*, *over* and *very much over* average. In braille reading, half (51%) of those who use braille are considered to perform below or much below, while barely one fifth (18%) perform as expected in relation to the average reader in the class. The other 31% of the pupils are considered to perform above average in the class. Of those pupils who are considered able to read ordinary print almost three quarters (71%) are judged to perform below or well below average in reading skills in this reading medium. Several respondents point out, in comments to the question, that it is the pupil's slow reading speed that makes reading ability estimated as low, both for those pupils who read braille, and those who are combination readers.

School subjects where it is considered difficult to create good conditions for participation

Respondents were asked to indicate whether there were subjects or teaching elements where they felt it was particularly difficult to create opportunities for braille reading pupils to participate. Of the 57 who answered the question 25% of respondents mention sports, 25% art and 26% mention natural science and laboratory work. With regard to physical education many teachers state that it is primarily ball games in

various forms that present a difficulty for the pupil with visual impairment. In art, many experience that generally it can be complicated to find tasks that are perceived as meaningful to the pupil as the subject is so much visually based. In natural sciences and laboratory experiments of various kinds, several elements can be difficult for pupils with visual impairment. It can be hard for pupils to get an overall idea of the task to be done, especially if it contains several different elements. It can also be difficult for the pupil to gather information and facts about the task to be carried out as fast as sighted peers do. Searching for facts, generally, is another crucial element for the pupil, since the selection of literature often has to be done by someone other than the pupil himself, such as an assistant or a resource teacher.

Other subjects where slightly fewer teachers indicated that they find it difficult to create conditions for participation are mathematics (9%), English (11%) and handicrafts (9%). In mathematics pupils with visual impairment often need to get problem-solving tasks read out and explained, which could disturb other pupils. In English much of the educational material builds on pictures, at least during the first grades. Pupils often need to get this complemented by appropriate concrete materials which can sometimes be hard to find. Regarding the subjects carpentry and textile handicraft it can be difficult to find tasks that pupils can manage independently without risking hurting themselves.

One difficulty that appears in many teachers' comments is that so much of the educational material used, primarily in lower grades, is based on pictures and descriptions of pictures. Even with verbal interpretation of the pictures, it can be difficult to provide pupils with visual impairment an equal footing with sighted peers.

A quantitative measuring instrument for braille reading pupils' participation

One of the aims of this sub-study was, with an exploratory approach, to develop a quantitative measurement of how teachers perceive opportunities for participation in the classroom for pupils with visual impairment. As for measuring psychological constructs or phenomena, such as attitudes, experiences or feelings, it is essential that the measuring instruments used are reliable and valid. One way to ensure the reliability of a psychological instrument is to use multiple indicators, that is, several sub-questions that measure the same phenomenon, which allows for heterogeneity in the measurements. But it is also essential that such an instrument has good validity, that is to say, that all sub-questions in the measuring instrument actually measure one and the same phenomenon. Valid and reliable measurements of how braille reading pupils' participation is perceived by their teachers, is an important contribution to developing both the theoretical and practical understanding of these pupils' psychosocial learning environment.

Variables of measuring instrument

In an initial phase, a semantic content analysis of all variables in the survey was made. The variables that were considered to relate to pupils' involvement were selected and then further analysed in terms of validity and reliability. The six partial questions initially chosen are presented in Table 2. Each sub-question was designed as a statement, as, for example, "*Other pupils often make contact with the visually impaired pupil in the classroom.*" Respondents then estimated from a response scale with four optional answers (completely true, agree quite well, disagree mainly, do not agree at all) the degree to which each statement was consistent with his/her own opinion. The six sub-questions were then quantified by coding the answer choices with numbers (1=not true at all, 2=relatively poor, 3=relatively good, 4=completely true).

Table 2. The six initially selected sub-questions for the participation scale.

1. Other pupils often make contact with the visually impaired pupil in the classroom.
2. The pupils with visual impairment is elected by his classmates at, for example, group work, to the same extent as the rest of the class.
3. Pupil with visual impairment is equally involved in the peer group as the other pupils.
4. Pupil with visual impairment is active and searches for knowledge in school.
5. The pupil with visual impairment often takes the initiative himself to contact other pupils in the classroom, for example, to exchange information.
6. The pupil with visual impairment participates fully on equal terms in all school activities.

Factor analysis

To examine the validity of the six questions they were analysed with an explorative factor analysis¹. The factor analysis generated a factor (which we will, from now on, call participation) with an own value of 3.65 and which explained 60.80% of the six sub-questions total variance. A closer look at the communality of the variables (a measure of how much measurement error is contained in each sub-question/indicator), showed that one of the variables (no. 4 in Table 2) is unlikely to be reliable ($h^2 = 0.16$). This indicates that this variable is highly afflicted by measurement error and thus contributes to a deterioration in reliability along with the other variables. Based on this result, it was decided that variable 4 in Table 2 is excluded from the analysis.

A new factor analysis was performed with the remaining five sub-questions. The analysis generated a factor with its own value of 3.53, which explained 70.58% of the total variance of the five remaining sub-questions². All variables showed satisfactory communality and factor loadings (i.e. how much each sub-question correlated with the psychological construct of participation). These are presented in Table 3.

Table 3. Measurement parameters for the final five sub-questions of the participation scale.

Sub-question	Communality (h^2)	Factor loading
1. Other pupils often approach the visually impaired pupil in the classroom	.79	.89
2. Pupils with visual impairment will be selected by classmates at, for example, group work, to the same extent as the rest of the class	.85	.92
3. Pupils with visual impairment are equally involved in their peer group as other pupils	.81	.90
4. Pupils with visual impairment often take the initiative themselves to approach other pupils in the classroom, for example, to exchange information	.71	.84
5. Pupils with visual impairment are fully involved on equal terms in all school activities	.37	.61

¹ As extraction method Principal Component Analysis was used as the number of respondents was very limited. The six sub-questions were forced into one factor to examine their measurement characteristics as a scale with multiple indicators.

² Note that communality for question 5 is 0.37. Although this value is slightly lower than the communality of the other sub-questions, it was judged that the communality for question 5 was still at an acceptable level.

The final overall reliability scale was then analysed by calculating *Cronbach's alpha* (α). In such an analysis normal values above 0.70 are considered to indicate a good reliability. The ultimate reliability of the measuring instrument was found to be satisfactory ($\alpha = 0.89$).

Correlation analyses

The teachers' estimates of pupils' participation in the classroom as measured by the developed instrument may be of interest both based on levels of estimated participation in itself, but also in relation to other relevant variables. In average the teachers estimated pupils' participation as 2.39 (SD = 0.84), i.e. slightly above the scale's midpoint.

However, it is of further interest to break down the data material and reflect teachers' estimates of pupils' participation against other aspects of the pupils' learning environment. In describing the individual relationships between teachers' estimates of participation and other selected variables the bivariate correlation coefficients between all variables included in the study were calculated. The correlation coefficients are presented in Table 4.

Table 4. Mean, standard deviation and standard bivariate correlations

Variable	Mean value	1	2	3	4
1. Estimated participation	2.39 (0.84)	-			
2. Gender (1=girl, 2=boy)	-	0.34*	-		
3. Grade (2–9)	-	0.10	0.11	-	
4. Teacher category (1=class teacher, 2=resource teachers, 3=teacher's assistants)	-	-0.04	0.00	0.40**	-
5. Class size	-	-0.07	0.08	0.13	-0.03
6. Visual status (1=blind, 2=partially sighted)	1.66 (0.48)	-0.07	0.04	-0.05	0.04
7. Reading medium (1=braille, 2=braille + ink print, 3=ink print, 4=other)	1.57 (0.72)	0.13	-0.17	-0.20	-0.10
8. Use of computer (1=not at all, 2=rarely, 3=a few times per month, 4=weekly, 5=every day)	4.61 (1.03)	-0.10	-0.12	-0.11	0.00
9. Independent mastering of computer (1=no, 2=partially, 3=yes)	2.49 (0.54)	0.24	0.08	0.39**	0.23
10. Cooperation with classmate at computer	2.76 (1.22)	0.29*	0.00	0.29*	-0.10
11. Teaching together with other classmates (%)	78.41 (22.67)	0.33*	-0.13	-0.06	0.07
12. Good contact between school and parents	3.64 (0.61)	0.16	0.19	-0.00	0.01
13. Parents' expectations on children's participation in class	3.00 (1.03)	0.32*	0.15	-0.20	0.40**

^a Question 1, 11, 13, and 14 were answered on a scale 1–4 (1=not true at all, 2=relatively poor, 3=relatively good, 4=completely true). Standard deviations are indicated in parentheses.

* Statistically ensured ($p < 0.05$)

** Statistically ensured ($p < 0.01$)

for selected variables in the study (N = 50)^a.

	5	6	7	8	9	10	11	12	13
	-								
	-0.24	-							
	-0.17	0.54**	-						
	-0.03	0.09	-0.10	-					
	0.29*	-0.26	-0.03	-0.04	-				
	0.21	-0.17	-0.05	0.08	0.39**	-			
	-0.18	-0.01	0.13	-0.10	0.13	0.34*	-		
	0.08	0.16	0.21	-0.01	0.13	0.14	-0.02	-	
	0.16	-0.14	0.11	-0.03	0.09	0.32*	0.17	0.24	-

As shown in Table 4 some of the correlations are statistically significant (these are marked in boldface and with an asterisk). Of the significant results we want to draw attention to some that we consider to be of particular interest.

For example, we note that pupils who frequently use computers as a means of cooperation with a sighted companion are estimated as being generally more involved in the study environment. This result is interesting because it is in line with previous research indicating that technical aids can help to strengthen social ties between pupils, by facilitating communication between them and bridge the differences between pupils' different reading media. Another interesting finding is that pupils who are estimated to master their computer equipment independently, are also the ones who frequently collaborate with a friend at the computer. This indicates that it is important for the pupil's overall participation that he or she actually has good computer skills.

Regarding pupils' ability to independently control their computer equipment, it is also interesting to note that teachers estimated the visually impaired pupils' independence at the computerized work higher in larger classes. This result may possibly indicate that the computer's role and function as a means of communication between blind and sighted pupils is not being fully utilized if the class gets too big.

Furthermore, it is interesting to highlight the fact that those pupils who have been largely taught together with other pupils inside the classroom and rarely had individual teaching in a separate room, were also estimated as being generally more involved. In addition, there is a link showing that pupils who are mainly taught together with others in the classroom, frequently collaborate with a friend at the computer.

One of the findings that we also consider being of interest is that pupils with visual impairment seem to cooperate with classmates at their adapted computer more in later grades. This may be explained by the fact that the pupils in the lower grades have not yet learned to manage their computer equipment. It is also possible that pupils in lower grades often work with more substantial information, not suitable for the computer.

Some of the results presented in Table 4 are of interest as they relate to more psychosocial factors. Particularly interesting is the finding that parents' expectations on their children's participation have a positive correlation with the achieved participation in class. This again suggests the importance of various psychosocial aspects of the learning environment, and is an important finding because it highlights the importance of building a psychosocial environment around pupils, in particular pupils with special needs, an environment characterized by positive emotions, support and confidence.

Related to the above argument is the finding that the quality of contact between schools and parents is not found to have any direct relationship with the pupils' general participation. The important thing seems, according to these results, to be that expectations are in fact expressed and conveyed by parents, while the communication then seems to be of secondary importance. This may be explained by the relationship between school and parents is not related directly to the pupils themselves and thus do not affect the pupil's actual participation in the class.

Furthermore we would like to direct attention to some results that arouse interest for the reason that they were *not* found to be significant. First of all, it was shown that the degree of visual impairment, that is, if the pupil was totally blind or had

some degree of vision, had no direct connection with his or her estimated participation in the classroom. This is interesting, as one might expect that the pupils, who have some vision and thus can receive at least some visual information, would be perceived as more involved than the totally blind pupils, but this is not the case. Nor does the fact that the pupil had a different reading medium have any direct connection with the estimated participation. There seem to be other factors that are of greater importance.

As shown in Table 4, there is finally a positive connection between the teachers' estimates of pupils' participation and the variable gender, where boys seem to get higher participation estimates. From a gender perspective, we felt this particular connection to be especially interesting. We decided therefore to investigate whether this relationship was significant and thus made a test for independent measurements. For boys the teachers' average estimate of the pupils' participation was 2.68 (standard deviation = 0.82). For girls, the figure was 2.09 (standard deviation = 0.76). Educationists thus estimated on average that boys participate more in class than girls. This difference was also found to be statistically significant ($t_{s1} = -2.76, p < 0.01$).

In the above, we have highlighted some interesting findings with regard to relationships between a number of variables related to the braille reading pupils' learning environment. However, we wish to emphasize that these findings are based on bivariate correlations. Thus, each individual finding is related to only two variables at a time, which means that we cannot express an opinion on the individual links in relation to the other input variables. Furthermore, the results form correlations between different variables, which means that they do not say anything about cause and effect. In other words, a significant correlation between two variables does not allow you to say that one variable caused variation in the other. This should be borne in mind when interpreting and applying the results presented here.

We also want to emphasize that all results are based on only the teachers' estimates of the various issues. Parents' and pupils' own perceptions are thus not illustrated in this sub-study. The study included the teachers of all the braille reading pupils in grades 2–9 in elementary school in Sweden, and is thus a comprehensive survey, which is a strength. However, the group of respondents is still not large, which also contributes to the fact that the results should be interpreted with some caution.

The questionnaire – summarized results

- Technical equipment can act as a social aid in collaborative tasks between sighted pupils and pupils with visual impairment.
- Pupils in larger classes were estimated to be more independent in their computer use.
- Pupils who were largely taught in the classroom collaborated more frequently with a friend at the computer.
- Pupils who were largely taught in the classroom together with the class were judged to be more involved.
- Boys were judged by teachers to be generally more participatory than girls.
- No difference was found between totally blind pupils and pupils with some vision regarding the estimated overall participation.
- The pupil's different reading medium had no direct connection with the estimated participation.
- Parental expectations for children's participation in the class seem to be related to how involved the children actually are perceived to be in the class.
- The quality of contact between home and school did not have a direct impact on the achieved participation.



The case study

Purpose

The overall aim of this sub-study was to deepen the knowledge of pupils' participation in various situations in the classroom through following a specific group of pupils over a long period of time. It was also intended to identify factors that have special importance for participation. The study has a qualitative approach and highlights not only educationalists', but also pupils' and parents' experiences.

Study Group

The study group consisted of all the seven braille reading pupils who were going to begin first grade in elementary school a particular academic year. The pupils had been known to Resource centre vision for some time. The parents of these pupils were contacted by letter and asked about their children's participation in the study. All parents consented. After their consent the schools were also contacted.

The criteria for inclusion in the case study can be summarized as follows:

- The pupil is blind, has a severe visual impairment or is pronounced partially sighted.
- The pupil was recommended braille as main reading medium before the start of school.
- The pupil started first grade the current school year when the study began.
- The pupil's sole or major disability is visual impairment.

The study group included seven children, of whom four were girls and three boys. Four of the children were totally blind and three were severely visually impaired or pronounced partially sighted. Causes of the visual impairment represented were Optic nerve hypoplasia (3), Retinoblastoma (1), Congenital glaucoma (1), Leber's congenital amaurosis (1) and other unspecified retinal disease (1). Developmentally, there were, according to the teachers' descriptions, a variation in the group from very high performance and social functioning to pupils who were more cognitively and socially immature with some behavioural difficulties. The heterogeneity of the group can be considered representative of the population of children with visual impairments in general.

Implementation

The seven pupils have been studied by the project group for three years, through visits to the school once a term. The project group was divided at each visit, so as to meet some pupils each. The teachers received an instruction for each visit that we wished to attend classes where there were opportunities for pupils to cooperate and interact within the framework of the tasks to be accomplished. We also asked to be part of les-

sons with different subjects. During our visits to the schools they have been working with reading and writing, mathematics, art and some kind of theme work in groups.

After the observed lessons, pupils, class teachers and resource persons were interviewed in semi-structured interviews. Focus of the interviews with teachers and resource persons have been different aspects of pupils' participation in the classroom, and the way they perceived that factors at different levels affect the pupils' situation in school and their opportunities to participate. For class teachers and resource persons identical interview guides were used, while the interview guides for the children were, of course, different, and focused more on their perceptions of themselves and their situation in school.

Interview guides were slightly revised between each visit to follow up on and connect to interesting themes that arose during previous visits. Interviews were conducted individually in a separate place at each school.

Video observations have also been made of different types of lessons, so the project group would have the opportunity to see examples of the work in the different classes, and be able to return to it as a backup in the processing of the interview material. Video data was, however not, collected with the aim of processing and analysing it.

At the end of third grade the pupils' parents were interviewed using a questionnaire with a number of open questions that they were asked to answer in writing. The main purpose was to learn more about how the parents felt that the first few years had worked for the children regarding the potential involvement and activity in the classroom situation. We consider the parental questionnaire an important complement to the interviews with teachers and children, although their written responses cannot provide the same nuances as the dialogue with teachers and children during the recorded interviews. The parental questionnaire was also carried out one single occasion, so parents' thoughts and opinions cannot be illustrated from a process perspective.

Data Processing

All interviews, which in time ranged from one half to one and a half hour were recorded on tape and have then been transcribed by the project group. In total, the material came to comprise some 700 pages of printed text. During the qualitative processing the interview material was first manually sorted by content on organization, group or individual level from a systems theory perspective. The material has then been analysed in several steps. The project group has jointly read the interviews several times and highlighted particularly interesting quotes with keywords in the margin. Eventually categories have taken shape at each level, as we found common denominators in the quotes (DePoy & Gitlin 1999). The categories have finally been broken down into sub-aspects that highlight different dimensions of the current area. The parental questionnaire material has been processed in a similar manner as the other interviews. The video content has not been analysed, but has only been used to support the project group in the interpretation of the other material.

Background information regarding pupils in the study group

The following briefly describes some basic conditions about the pupils in the study group. First, each pupil's vision is briefly described, as well as the type of class the pupil is in and the extra staff resources available for the pupil. Also presented are pupils' technical aids. This is followed by a short description of each pupil's school situation and individual circumstances, as described by class teachers. All names of pupils are fictitious.

Adam

Visual ability:	Severe visual impairment
Class type and size:	Class with about 25 pupils, all of the same age
Additional resources:	Resource teacher 100% in grade 1, 50% in grades 2–3
Assistive technology:	Braille machine (Perkins), adapted computer equipment, CCTV

Adam attends a school ranging from preschool class to grade 6, in a middle-sized city. The climate in Adam's class is active and somewhat restless and there are ambitions to work with group dynamics and climate in the class. The class has no access to any study rooms, which is why Adam spends the entire school day with the other pupils in the classroom.

Adam is described by his teacher as an intellectual and, in terms of learning, at the level of his age group, but socially and emotionally somewhat immature. He uses the vision he has very effectively and he is interested in looking at pictures. Before the start of school Adam was recommended braille as his main reading medium as it was judged to be the most comfortable way for him to read. Although he eventually learnt to read ink print, he prefers braille as his reading medium.

Boel

Visual ability:	Severe visual impairment
Class type and size:	Class with about 20 pupils, all of the same age
Additional resources:	Resource teacher 50%
Assistive technology:	Braille machine (Perkins), CCTV, from second grade adapted computer equipment, distance camera

Boel attends a school ranging from preschool class to grade six in a middle-sized city. Climate in class during first grade is rather restless with several pupils who need a lot of support. The situation calms down significantly during second and third grades. During the first year there is no access to study rooms, but after changing classrooms in second grade, the class gets a study room which is widely used both for individual work and work in small groups. Boel sometimes works individually with her resource teacher, sometimes in small groups and sometimes together with the whole class.

Boel is described by her teachers as a pupil who intellectually is on par with her classmates. The interaction with fellow pupils, though, is more difficult and her teachers think a lot about ways of increasing her interest in other children.

At first Boel uses a combination of braille and ink print. In grade two it is decided that she is no longer going to read braille, but will concentrate only on ink print. At that time she also gets a distance camera which according to her teachers dramatically increases her interest in what goes on in the classroom.

Carolina

Visual ability:	Blind
Class type and size:	Class with about 20 pupils, all of the same age
Additional resources:	Resource teacher 100%
Assistive technology:	Braille machine (Perkins), adapted computer equipment from first grade

Carolina attends a school ranging from preschool class to 6th grade in a major city. Several children in the class have special educational needs and during the first school year, class climate is very restless. After the first term there is a change of class teachers. The resource teacher takes a major responsibility for the adaptation and performance of Carolina's teaching, but also provides support to other pupils in the group if necessary. Carolina is described by her teachers as cognitively on par with her classmates. But her teachers would like to see a greater sense of initiative in her studies. The resource teacher and Carolina work together on a number of occasions each week individually in a group room, but it also happens that a smaller group of pupils work together in the room. Carolina's major difficulty is in social interaction, it is hard for her to adjust her behaviour to be accepted by her classmates. She often finds herself alone, especially during the breaks. Carolina is blind and her natural reading medium is braille.

Desirée

Visual ability:	Blind
Class type and size:	Class with about 25 pupils, all of the same age
Additional resources:	Resource teacher 75%
Assistive technology:	Braille machine (Perkins), adapted computer equipment from first grade

Desirée attends a school ranging from preschool class to grade 9 in a small town. Classroom climate is lively and somewhat restless. In the class there are several children with special educational needs. There is a group room available next to the classroom and it is often used when the children work in smaller groups. Desirée works individually with her resource teacher a few times a week. Otherwise the class often works with tasks in pairs and in small groups. Music and drama are important subjects with a group strengthening function. They also work with the social climate in class in smaller discussion groups.

Desirée is described by her teachers as a pupil intellectually quite on par with her sighted classmates. Socially she functions very well and she often has a positive impact on her classmates. Desirée is blind, and her natural reading medium is braille.

Emma

Visual ability:	Blind
Class type and size:	Mixed ages in class of around 25 pupils
Additional resources:	Resource teacher 100%
Assistive technology:	Braille machine (Perkins), adapted computer equipment from first grade

Emma attends a school ranging from preschool class to 6th grade in a small town. The teaching approach in her class is during first grade very flexible and student-active. The pupils work largely with their own planning schemes and on different tasks at their own pace. During second and third grade there is a teacher exchange, after which the way of working changes towards a more teacher-directed approach. Emma is not affected in any significant way by this change. Connected to the classroom is a study room. Emma is, for the most part, taught along with other pupils in the classroom, but on rare occasions she works in the group room alone with a teacher.

Emma is described by her teachers as intellectually very mature, in many areas she is estimated to be cognitively far ahead of her classmates. This is also the main reason that she is sometimes taught individually, since she often works with more advanced tasks than her classmates. Socially Emma is also described as competent and efficient. Since Emma is blind, braille is her natural reading medium.

Fredrik

Visual ability:	Blind
Class type and size:	Class of around 20 pupils, all of the same age
Additional resources:	Teacher's assistant 100%
Assistive technology:	Braille machine (Perkins), adapted computer equipment from first grade

Fredrik attends a school ranging from preschool class to third grade in a medium sized city. Class climate is calm. Pupils often work with the same task after a joint presentation by the teacher. Sometimes pupils, however, have more choices between different types of tasks. The class has a study room in the immediate vicinity, which is primarily reserved for Fredrick. Fredrick has, throughout the school day, support from a teacher's assistant. He works mainly with his assistant, privately in the classroom or in the group room.

Fredrik is described by his teacher as both intellectually and socially far more immature than his classmates, and he also has some behavioural difficulties. He is described as largely adult-oriented and in need of much individual support, both in learning situations and in interactions. Since Fredrik is blind, braille is his natural reading medium.

Gustav

Visual ability:	Severe visual impairment, visual acuity at near distance 0.07
Class type and size:	Age-mixed class, around 20 pupils
Additional resources:	Resource teacher 75% in first grade, 50% in second and third grade
Assistive technology:	Braille machine (Perkins), tape recorders, CCTV, from second grade adapted computer equipment, distance camera

Gustav attends a school ranging from preschool class to 6th grade in a small town. In the class the children often work independently with their own work schedules, or in small groups. Connected to the classroom is a study room, which is often used, for example, when reading in small groups. In Gustav's class the staff work continuously to influence the social climate of the group in a positive way.

Gustav is described by his teachers as having learning and social skills on par with his classmates. Before the start of school Gustav was recommended braille as his main reading medium. During his second academic year it is decided that he should read less braille and concentrate on reading more ink print. According to Gustav's teacher, this has had a positive impact on his motivation for reading. He is also equipped with a distance camera which he uses frequently.

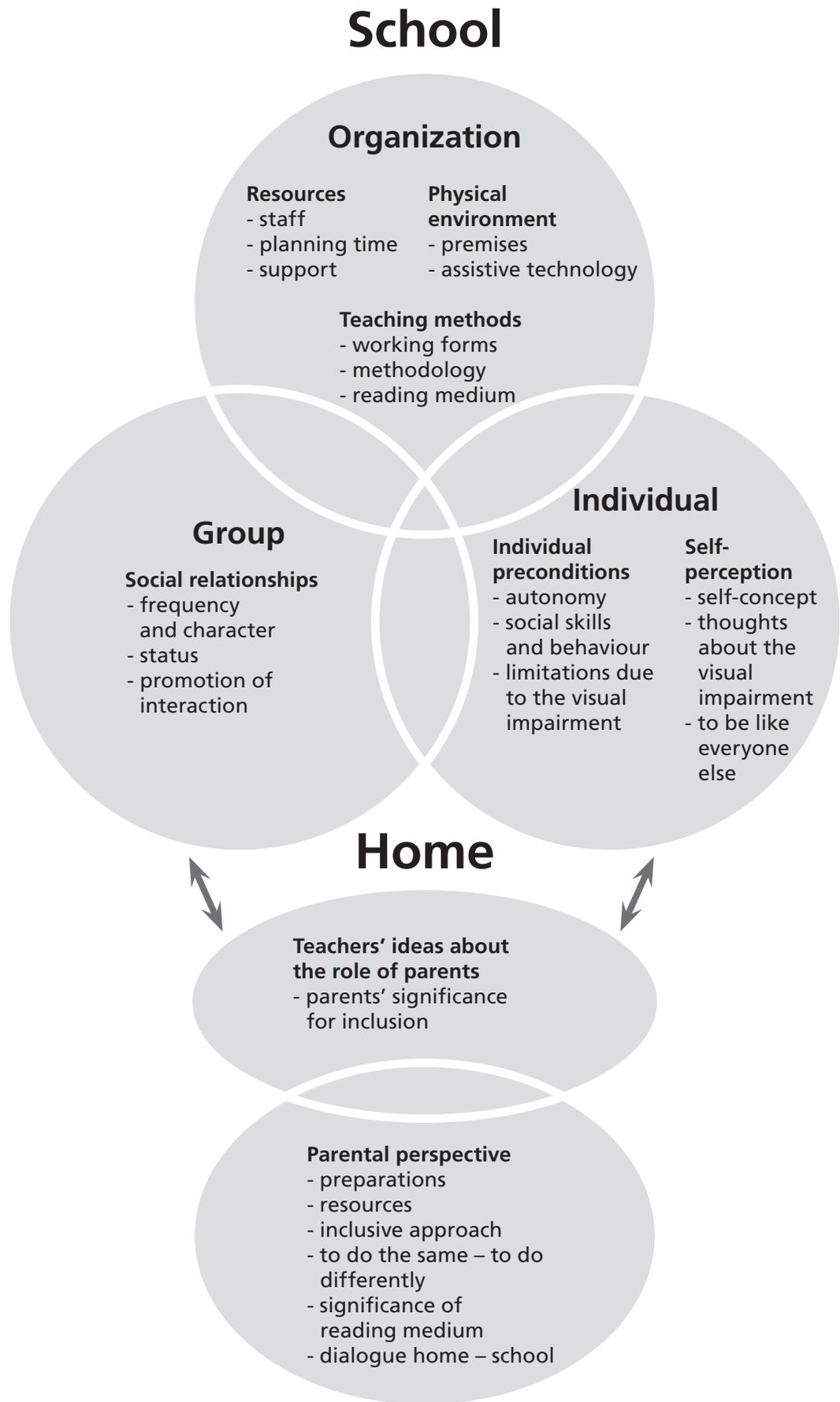


Figure 4. Model illustrating the interactions between factors which in the interview material have been shown to be significant for pupils' inclusion.

Results

The main results of the case study are presented in figure 4. The model illustrates how factors at an organizational, group and individual level interact in the child's learning environment in the school. Further, the interaction between the school and the pupil's home environment is highlighted in terms of parents' perspectives as well as teachers' ideas about the importance of parents for inclusion. The following describes the main categories and sub-aspects that have emerged in the interviews, at each level.

Organizational level

At the organizational level in the school environment three main categories of particular relevance appear; resource allocation around the pupil, the physical environment of the classroom, the school in general and the choice of working method in a teaching situation. These three categories in the interview material have been broken down into sub-aspects that are presented below.

Resources

The resources that are closest to the pupil with visual impairment in the form of staff working with the class, the time for teaching team's planning and adaptation of materials and the support that the staff is given through external support functions, are factors of great importance for how the ongoing work with the pupil functions. The interview material reveals a clear picture of what the organization around the pupils in the study group looks like, and how the optimal situation would be according to respondents.

Staff – division of roles

In all classes there is a staff resource in addition to the class teacher, during at least half of the school day. Educational background of the resource persons vary. One is a nursery school teacher, another is a youth worker and a few are elementary school teachers. One person has no teaching education but has children's nurse qualifications instead. For the sake of simplicity, all the resource persons who have a pedagogical education will be called *resource teachers*, while the person who lacks pedagogical training will be called *teacher's assistant*. When all seven are referred to as a group, the concept of *resource persons* is used.

In the classes where two elementary school teachers are working, the view returns that this provides positive opportunities for flexibility in the group. On the other hand, everyone has chosen to distribute roles so that a teacher is in charge of the class and the other teacher has the role of resource teacher for the pupil with visual impairment.

In one of the groups the class teacher is clear that she does not want the roles to be so pronounced. She expresses that teamwork is important and that a "two teacher system" where both have equal responsibility for the class, also for the pupil with visual impairment, is worth striving for.

The class teacher puts it this way:

"... that the teachers do not have specific roles. I'm very curious in nature, so I want to be as much involved with [the pupil] as the others, I see him as one of my 26 pupils. So I know as much about him as the others and I work as much with him as with the others and I think of this as an advantage."

(Class teacher, 3rd grade)

But the view also exists that the class teacher has many pupils to consider and that it therefore can be difficult for that person to have a deep knowledge of the specific methodology for the teaching of braille readers, and to be comfortable with the assistive technology that the pupil uses.

"Then I find role distributions tricky because the class teachers today have so much to relate to, and often many children with disabilities, it is not just a pupil who is blind in a class, but there is ADHD and there is Asperger and there are reading and writing difficulties. And it's very difficult for a class teacher to have sufficient knowledge about all this."

(Resource teacher, 3rd grade)

The consequence could be that a lot of responsibility is placed on the resource person, why it is especially important that this person has the right competence.

"I feel that I have handed over a lot to the resource teacher and I feel that I don't know enough. But I have felt that it has been fun to have this challenge, so I've done the best I could but it's clear that I should have deepened my knowledge more on my own both in braille and art, for example. But in this area I have relied on the resource teacher to have that ability, and I believe that it has been important for me to have very skilled resource teachers. As I understand that I have had."

(Class teacher, 3rd grade)

The differences in education between the staff in the classroom is commented on in different ways by several respondents. Many highlight the importance of having an equivalent education in order to arrange the work in an optimal way.

"I think it would have been easier if we had both been primary school teachers. Then we would have been able to work more in parallel with each other."

(Class teacher, 1st grade)

The same educational background may also facilitate the cooperation and provide greater opportunities to find solutions to educational challenges. One resource teacher puts it this way:

"It is as though we think the same. If there is a reading problem we can discuss with each other how to solve it."

(Resource teacher, 3rd grade)

The class teacher for the same pupil describes the possibility of shared responsibility as important:

"Now that I have [the resource teacher], who is also an elementary school teacher, we have the same education, her and I, I feel pretty safe anyway. For I know she can go in there and explain what I might miss."

(Class teacher, 3rd grade)

One of the pupils has, as mentioned, a resource person who has no pedagogical education. The class teacher has not only all the pedagogical responsibility for planning the pupil's teaching, but also for the implementation. She has, for example, the ambition to regularly work with the pupil's reading instruction. But this is difficult to carry out due to lack of time.

"We have tried to create possibilities for the class teacher to go in and work with the pupil, because you always hear that the teacher is responsible for planning the job etcetera."

(Teacher's assistant, 3rd grade)

The class teacher agrees that the ambition is that she will be working more directly with the pupil, but that it is often difficult to achieve in practice:

"... That is our goal, but it doesn't always work out ..."

(Class teacher, 3rd grade)

In conclusion, it is clear that division of roles between class teacher and resource person is a significant factor that you need to think through, so that the solution does not become too vulnerable, and the pupil with a visual impairment becomes too attached to one specific person. It is important that the staff feel a shared responsibility for the pupil. The communication between teacher and resource teacher is crucial in order to create good working opportunities.

Time for planning

There is no doubt when you listen to the educationalists in the investigation group that the planning and preparation of work is important when you have a braille reading pupil in the class. However, there are many thoughts about what this work should look like and how much time is needed for it to work in a good way.

Common to all in the investigation group is that the resource persons, to different extents, have their own planning time regarding the braille reading pupil. On average, the resource teachers have 5-8 hours of their own time per week for preparation and adaptation of materials. This, however, is perceived by most as insufficient, as the practical work of developing and adapting materials is very time consuming. Furthermore there are other aspects, such as lack of time to think and reflect on one's work and how to develop it. A resource teacher expresses it like this:

"There is no time for consideration and reflection. Where are we now, are we doing a good job etcetera? Thoughts like that may arise when I'm home at night, that perhaps we should do like that instead?"

(Resource teacher, 1st grade)

In one case, the resource teacher has not really any planning time at all, which is perceived as a major problem that is difficult to solve because the pupil needs the support of the resource teacher even during breaks and in the recreational unit:

"I feel like I never have time to prepare anything because I need to be with him all the time. It's only when he has been ill or something that I can deal with that."

(Teacher's assistant, 2nd grade)

On the question of whether a resource teacher needs planning time of her/his own, she replies:

"Yes, I would absolutely. But there is no point in asking for it, it's just waste of time. There is just no money and no resources for that."

(Teacher's assistant, 2nd grade)

Something which is requested by many and in most cases is described as deficient is planning time in common, where the class teacher and resource person can discuss and plan tasks together. Such time is important for making everything work. Above all, it is important that the resource person knows in advance what the class will be working with during different sessions in order to have the time to prepare and adjust the material for the visually impaired pupil. It is also useful to have time in common to look back and reflect on how the work functioned and what improvements might be needed.

During the first school year when everything is new all respondents express a strong need for common planning time. Respondents indicate that the time set aside for joint planning is, on average, around one hour per week, in some cases a little more, in some a little less. In two cases, there is no common time at all set aside, which is problematic as the resource person is often forced to improvise and is not able to prepare and adapt all materials. One resource teacher expresses the following when asked if they have common planning time:

"No, but we need it! I would need time to plan together with the class teacher, we both need this!"

(Resource teacher, 1st grade)

Even those who have around one hour a week for joint planning express that it is not enough:

"You hardly have time to get started, it's really very little. But then of course we talk during the day (...) but there's really not enough planning time!"

(Resource teacher, 1st grade)

The consequence for many is that they "steal" time from other things to manage to talk together and plan, which is obviously not optimal:

"... well we talk during breaks and before classes ..."

(Class teacher, 1st grade)

During second and third grades, many respondents feel that the need for both individual and common planning time remains, but that the need is possibly a little different compared to first grade. Those who didn't have any time for common planning at all during the first year, have after pressurizing the school management, been granted about an hour a week, which is perceived as positive. However, many still express that they need even more time, while some feel that the planning has gradually become more effective in step with getting to know the pupil and the teachers are more comfortable in their respective roles. A good arrangement is perceived to be that the class teacher draws up guidelines for the work in advance, and the resource teacher then together with the class teacher can plan what specifically needs to be prepared or adapted for the pupil with visual impairment.

"When we sit down to plan now, the next week is already so well planned that all that remains is to figure out the best way to adapt the tasks in order to suit the pupil. Before, it was more like 'what should we do now?!' And more time was used to actually plan the whole content. And that's not how it should actually work."

(Resource teacher, 2nd grade)

Two pupils for various reasons stop using braille during primary school time and start reading only ink print. This is experienced by teachers as a big change in many ways, not least regarding the need for planning time, which becomes quite different when the pupil no longer reads braille.

"Well, that [the need for planning time] is less since we stopped using braille. The braille-related adaptations were what was the most time-consuming. The other stuff is more about your approach in teaching (...). The burden, as I experienced it, was that I had to learn braille and ... well that stuff. "This way of thinking, well, it gets automatic after a while. When you get to know each other, and when you identify what situations might be tricky."

(Class teacher, 2nd grade)

When the respondents in third grade look back and are asked what amount of time for individual and joint planning they consider to be optimal, the answers are quite consistent. A minimum of one-two hours per week for joint planning and a further few hours for production and adaptation of materials, that is a necessity for work to function, and for the teachers to cope.

"Well now, when I look back, I think that either you should have higher wages or you should have more planning time! Because it takes so much extra time... my colleagues who work around me, they look at me and wonder 'how do you cope?' Because I do the day's planning in the morning, and we prepare lessons ... and they they say 'How do you find the time? How do you cope?'"

(Class Teacher, 3rd grade)

Once again, the specific workload that comes with the reading medium braille is emphasized, and what prerequisites are required in terms of time to ensure quality of the child's literacy learning. Perhaps this should initially be entered in a clear manner in the teacher's work description:

"... if you get a child in class, who is going to read braille, you have to allot more time for the teacher to learn braille. I sat through last summer, and sacrificed my summer vacation for that. (...) Maybe you should work just 80% in class and the rest of the time you could use to learn braille. At least so that you are ahead of the child. Now one has to learn it during leisure time, and that might not be the intention. Still, we didn't use Braille in maths, which would have taken much longer if we did."

(Class teacher, 3rd grade)

Finally another aspect was highlighted, linked to the planning time. The many external contacts the school needs to have around the child with visual impairment are important and valuable, but they are also time-consuming. This often means that time has to be taken from one's own planning time and it is sometimes difficult to balance this equation.

"Well ... contact with other professionals coming in, it's really important and something you must have. But it also takes time. (...) All these visits... have to be squeezed into the schedule."

(Class teacher, 3rd grade)

External support

The regular external support to the educationalists who teach braille reading pupils in elementary school, is given mainly by advisors from the National Agency for Special Needs Education and Schools together with the local low vision clinic. The advisor is responsible for the educational support to teachers and the low vision clinic provides the technical aids and necessary adaptations and ensures that the technical support functions. The low vision clinic is also responsible for providing advice in relation to any adaptations in the school environment which need to be done. It is also common that the adaptation teacher at the low vision clinic visits the pupil in school to train orientation and mobility. Other specialists who may be involved if necessary are, for example, it-teacher, habilitation staff, school psychologist or social counsellor.

During the first year in school you can sense some confusion and frustration among educationalists as to what external support is offered, whom to turn to on various issues and what type of support the different persons represent. When asked if they have had any contact with advisors from the National Agency for Special Needs Education and Schools, one resource teacher responds:

"Advisors ... I don't even know what that is ... But we have [X, name] ... she might be an advisor ... She has been here! Yes, we have talked a bit ... but maybe she is from the low vision clinic ...?"
(Teacher's assistant, 1st grade)

Most describe uncertainties as greatest in the beginning, but they gradually learn to sort things out:

"Now it feels good. In the beginning it could be a bit confusing ... before all the concepts were clear, you know, who do I ask now ...?"
(Resource teacher, 2nd grade)

Getting support from people who have knowledge of working with children with visual impairment is valuable. It can be hard to know what demands you can put on the pupil when you have no earlier experience.

"When his mother asked last week if he is learning letters at a normal pace, I had to say that 'Well straight off, I honestly don't know...', but then I could call the advisor and ask her. It's a relief to be able to ask someone with more experience."
(Class teacher, 1st grade)

Generally, it appears that most are satisfied overall with the external support they have received. Especially when support is provided on a regular basis, and not dependent solely on the school staff themselves taking the initiative. With good support initially, it appears that the need decreases slightly over time.

"I think it has worked great. I have nothing to complain about! The low vision clinic has worked very well, they visit us regularly about every three weeks (...) They work very methodically around mobility. The PE teacher and I are usually present, it gives us a little extra training. Now you can feel that we know quite a lot and it's great fun! I can feel myself that I don't need to contact the advisor much any more because I have learned quite a lot now, but I could always ask her if there is anything."
(Resource teacher, 2nd grade)

Besides their regular school work, the pupils with visual impairment also need support in training orientation and mobility – a responsibility that rests on the low vision clinic's staff. It facilitates a lot if it's possible to conduct the training during the school day without other activities being disturbed.

"They come when we call them, if we feel that 'now we need to practice this!' Then she comes, maybe once or twice per term. Otherwise, we have telephone contact, in between."

(Resource teacher, 2nd grade)

But there are also examples of support from the low vision clinic not working so well:

"We have received the best support from Resource centre vision and from the advisor. The rest has been rubbish. The low vision clinic has changed staff so many times! This year [the pupil] has not received any help at all from them. It was said that they would come once a week and work on cane technique with him, but we have not seen any sign of them. When we have called them they've just changed staff again. (...) And ... the caning' [mobility training with a cane,] we do not know anything about it, so we need help! We can manage learning to read and write braille, but all this other stuff, it's so important!"

(Class teacher, 2nd grade)

Several of the educationalists describe that they don't feel acknowledged by their own school management. They describe a desire for more involvement and feedback from the school management. Some would like the headmaster to visit the classroom more often to get an insight into the daily work. Several respondents believe that this would increase the the school management's understanding what work is being done and what resources are required. One teacher comments:

"We have a school management that does not see or appreciate much of what we do at the moment ... they're mostly absent in meetings. So [the resource teacher] and me try to give each other feedback and push one another forward instead."

(Class teacher, 2nd grade)

During second and third grade, the need for technical support and computer support seems to increase, in step with the pupils' aids becoming more technically advanced.

"Yes, we would have needed more support there, We would have needed it in the beginning but also on a regular basis. We miss that now that he has a computer and in particular with regard to him getting older and using the computer even more."

(Resource teacher, 3rd grade)

For one pupil, the situation was more complicated. Since the pupil's resource person has no educational training, she has not been authorized to participate in the training offered by Resource Centre Vision, beyond base level. This has complicated the cooperation around the pupil, where all the educational responsibility has been on the class teacher. The fact that the external local support has not functioned satisfactorily has further complicated the situation. Both the class teacher and the teacher's assistant have felt alone in their tasks.

"It's been hard that [X, assistant] could not go for training at Resource Centre Vision. Then, of course, I felt that I had to go. The course was good, it always is, but it has complicated our work that she couldn't go there too. It has in fact impaired our cooperation. The exchange of experience, to have someone to talk to about how to do different things, that would have been very beneficial if we could have done that. I've really missed that!"

(Class teacher, 3rd grade)

All in all, the majority of teachers are still satisfied with the external support received during the pupil's first three years. Some teachers also reflect on the support to children with other difficulties, such as neuropsychiatric disorders, where the support system is less developed.

"I think that if you have a visually impaired pupil you have very great benefits compared to other disabilities (...) if you have a pupil who is dyslexic or has ADHD, there is not the same backup at all. I think all pupils should have the same opportunities. When it comes to visually impaired pupils - it's fantastic that such backup exists."

(Class teacher, 3rd grade)

Physical Environment

The physical environment includes both the premises where the pupil spends his time during the school day and the assistive technology which he uses.

Premises

All of the respondents feel that there has been plenty to think about as to how the environment should be designed in order to provide both the best conditions for the child to follow the teaching and, at the same time, to give the pupil the opportunity to interact and have contact with other pupils. According to the teachers, it is difficult to find any "ideal" place in the classroom that always works for pupils with visual impairment, because there are so many factors that are significant. Regarding the location, one has often tried to assume that it should be easy for the child to find his or her place. It is also important for the child to easily reach his technical aids and still be able to sit next to a companion just like the other children in the class. This is an equation with many parts which has not always been easy to put together. This is how one class teacher describes the situation:

"Well, it was important for her to sit with a friend and still be close to the computer and ... but often [X, resource teacher] sits down beside her, and she ends up working with her teacher, as they have a planning of their own. We have asked the low vision clinic how we should think about her possibilities to move around. We've tried to think that it should be easy to find her way around from where she sits ... to have a clear path from where she comes into the classroom up to her place, and that she could easily turn to the computer. From her place it is an open path to the cabinets, where she has her things. Then it's a straight open path from her place to the door that they use when going to the dining room. We have chosen square tables, with edges that she can follow. We used to have half-moon tables before, which we took away."

(Class teacher, 1st grade)

Managing a good placement of the child's technical aids while at the same time having the child sit together with one or more classmates is not always so simple:

"We've tried to find a good place for her where she sits with a companion, but it has been very difficult because the camera and other technical aids take such a huge place. You can't just to put them anywhere. There are so many wires and whatever, and you must not bump into it because then you ruin the picture and the colours, the whole thing is very sensitive. But of course we would like to change it so that she is sitting next to someone, we think a lot about that, that it should be good for her."

(Resource teacher, 2nd grade)

A change of place in the classroom, just like other classmates, is something that is very important for some of the children:

"Yes, we've changed classrooms now and [the pupil] has changed places. In the previous classroom she sat in the front and now she sits at the back. She really wanted to change places, it was a wish she had expressed at a performance review, and we thought, what do we do now? At first we thought she should sit somewhere in the middle, but that does not work with all the technology. But sitting at the back works well. She has a lot more books now than in first grade and so she has a bookshelf close behind for everything that cannot fit in her desk, and yet it is within reach. The Perkins machine is close by as well. She likes to sit at the back, there is no disturbing noise from behind, it is more peaceful."

(Resource teacher, 2nd grade)

Sometimes, however, opinions differ as to what is a good place in the classroom. One class teacher reasons as follows:

"Now I think he has a very good place, as the Perkins and computer, the CCTV and everything is at the back of the classroom, and it's so much easier now for him. He just needs to turn around to reach everything. I feel that it is more peaceful for him now that he doesn't have any children behind himself."

(Class teacher, 2nd grade)

While the pupil himself thinks like this:

"But I'm a little disappointed with this seat. (...) I have always had to sit at the edge. They think that just because it should be easy for me to get away, but I do not need to get away easily just because I'm visually impaired. I hardly ever get to change places in the classroom. And when I do, they just let me swap about three seats away. I would like to sit more in the centre, not just at the back, out-of-the-way as I always am!"

(Adam, 2nd grade)

The physical possibility of individual work in a nearby study room has varied in different schools. The need for a study room is strong, as several of the teachers emphasize, as in today's schools teachers are required to teach pupils with many different needs in the same class. It is important that the study room is directly adjacent to the classroom, to prevent the pupils feeling that they have been taken out of the class community. The feeling of being separated from the class will then probably be less noticeable. According to the educationalists many of the sighted pupils find it a privilege to be allowed to sit in the study room to work.

"Yes, the premises are important. Now we have a real study room with a door that we can close, which can be used when pupils need a little more peace and quiet. It benefits all the children in class and for [the pupil] it has been a great privilege. It has been very good for her. (...) But there should not be a whole corridor in between, you should be able to get there directly from the classroom, that's important."

(Class teacher, 3rd grade)

Assistive technology

Educationalists describe the pupils' technical study aids as very much enhancing the study situation and pupils' learning. Technical aids, especially the computer, has, from the very first school year, had great potential to create opportunities for cooperation between the braille reading pupil and his classmates.

"Yes, she uses the 'Micro-log' then when she is writing, and her friend writes on the PC. They're connected so that [the pupil] can also read what her friend is writing, it appears on her Braille display. So, each one wrote every other word or something like that."

(Class teacher, 1st grade)

During second and third grade, several of the pupils start using the computer more frequently but they still see advantages in using the mechanical braille writer (Perkins) in some situations.

"It is easier and faster to write on the Perkins if I only want to write something short, because it's so tedious to, first, get into the document, and then write that little bit and then print it. But if I'm going to write a lot I usually use the computer"

(Carolina, 2nd grade)

But there's also the occasional pupil who prefers the Perkins, which is less complex. Adam argues as follows:

"I think Perkins is better, because I have real good flow on the Perkins. The computer is smoother, but there is so much to keep track of, so I think Perkins is okey."

(Adam, 2nd grade)

The ability to easily move the computer equipment is also relevant to how flexible the pupil can be in different cooperative situations. One teacher describes how the pupil is tied down to her desktop computer, which is located some distance from her school desk.

"As long as she does not have the computer on her desk, it is difficult for her to participate. She goes to the computer and sits there alone. It doesn't matter where her usual place is in the classroom, as she always ends up there. We have to find another solution before third grade starts, when they are going to be working together more in small groups in different rooms."

(Resource teacher, 2nd grade)

Some of the children are described by their teachers as having reluctance towards using their technical aids, especially for one child who has some residual vision. The teachers interpret this as an effort by the child not to be different. One resource teacher says:

”Yes, he had a very negative attitude to the Micro-log last year, so now we try to get the others interested in the computer. (...) He didn’t want to put anything in the CCTV, nothing at all ... But then he got to change it for a distance camera. Then we started to show it to everybody and they got to try it and then it has been much easier. He is very strict about others joining in.”

(Resource teacher, 2nd grade)

Two of the pupils who have some residual vision were, at the beginning of second grade, equipped with a distance camera, which according to the teachers meant a big change for these pupils in several ways:

”He learned quickly to use the camera. I think it was such a revolutionary thing to get the camera and being able to zoom in on the classmates, the clock on the wall and who’s entering through the door and so on ... He scanned around with the camera a lot at first and it was, in itself, fun for the other children.

He really needed to check out everything. But now, using it as a pure technical aid, it is extremely rare that there is any mischief with the camera. Now he knows how it works ...”

(Class teacher, 2nd grade)

Even the teachers of the second pupil describes the great change which the distance camera meant:

”Yes, I remember the first day when she got the camera. She had no joystick then so she was only able to zoom. But just to be able to see the whiteboard and to be able to see the others standing there in front made her so happy. ‘It’s the best day of my life!’ she said. Then, after two days, she got the joystick and then she could control it all by herself, it was just fantastic!”

(Resource teacher, 2nd grade)

The technical aids for studying are of great importance for the braille reading pupil’s learning situation, while at the same time teachers may find it difficult to get the technology to work. When technology works, the pupils can often work independently or with a companion, but when there are technical problems the children are, of course, more dependent on help. Since the pupils’ technical aids and adaptations are complex, it often requires technical support from outside, and it can sometimes be hard to get this help in reasonable time, according to several of the teachers.

Teaching methods

The choice of teaching method is obviously of great importance to the braille reading pupil’s opportunities to participate in the classroom. The areas that emerge most clearly in the material is partly about different forms of work, that is how one chooses to work in various group formations and to what extent the pupil gets individual instruction, partly about the choice of working methods, what subject areas are particularly difficult to adapt, and how to resolve these difficult situations. In addition, respondents highlight braille as a reading medium and what a challenge that is. Has the reading medium in itself any bearing on the pupil’s opportunities for participation?

Ways of working

The interview material points out different forms of working that function well for the pupils with visual impairment, and many of them describe flexible ways of dividing the children into smaller groups. They all agree that the child, especially during the early school years, needs a lot of teaching individually or in small groups. Many school tasks require peace and quiet for the child to be able to concentrate and it is often hard to create the necessary calmness inside the classroom.

The early stages of braille learning involve a lot of tactile and practical training that requires concentration by the child. In the learning situation, the child often needs to verbally communicate continuously with the teacher, which may disturb the other pupils. Some of the teachers describe how computers with synthetic speech and the Perkins machine can also be disturbing to other children.

Sometimes the child with visual impairment requires more time to complete tasks and may have to work individually outside the classroom. Most of the pupils receive teaching outside the classroom about one or two hours per week.

Being able to give pupils with special educational needs support in a peaceful environment is of great importance for the pupil's possibility to be involved in the learning, without encroaching too much on the participation in the classroom. One of the educationalists comments like this:

"I think it works ... considering the participation it's just for a short time each day – fifteen, twenty minutes – that we sit outside the classroom, just her and me and work together. Otherwise, she does the very same things as the others. Because that's what she wants."

(Resource teacher, 1st grade)

Need for peace and quiet and to rest from all the sounds are things that are emphasized by the teachers, but also by the children themselves.

"When she works alone ... well, it might be because she sometimes needs more time. She must be able to work at her own pace, if the pace is too high in the classroom. But then it can also be too much noise in the classroom and you notice that she is tired. Then she may want to sit alone, she likes very much peace and quiet."

(Class teacher, 1st grade)

One of the resource teachers confirms the picture:

"Yes, I think it's very important for her with this moment as well, to be outside the classroom with an adult. Because I believe that she is experiencing more and more now that there is a lot of buzz and so on, to and fro, and it is exhausting to her." (Resource teacher, 2nd grade)

Here's what one of the children says about how she perceives the possibility of working in peace in the classroom:

"There is so much noise there (...) so much noise ... Everyone is talking to each other. I sit silently and do my work ...just think if everyone would keep quiet and work, that would be nice."

(Carolina, 1st grade)

Two of the seven children have almost all of their teaching in the classroom and very rarely do anything outside the classroom. One pupil definitely does not want to work outside the classroom and does it only in exceptional circumstances:

"No, he does not want to go sit outside the classroom. We really thought he needed to go sit in peace and quiet at times, but he doesn't want to and then I don't think it is right to force him to do it. Once he has been sitting outside the classroom to work with his recorder, because it was disturbing to the others when the sound was on. But he was not happy with it, so then we brought him headphones so he could sit in the classroom and work."

(Class teacher, 1st grade)

The needs of several pupils to sometimes have the opportunity for individual teaching, appears to be fairly constant during all three years, and also the reasons why individual teaching is needed. For some children it is about the need for additional support in various ways, but for one child the reason that she sometimes gets individual tuition is that she is way ahead of her classmates in several subjects. Here is what her class teacher answers to the question if she gets individual tuition:

"The only time that she is not with the class is when I go through something with the first graders and when they are doing nursery rhymes and other stuff that is too easy for her. Then we usually ask her if she wants to join or if she wants to go and read with the [resource teacher]. Nine out of ten times she chooses to go read."

(Class teacher, 1st grade)

The pupil's resource teacher further describes:

"And then we can for example work with grammar. That is more advanced for her than for the rest of the group, as she is far ahead. And so I can correct her work together with her."

(Resource teacher, 2nd grade)

We have also asked the teachers about what they think would be the ideal number of children in a class where there is a pupil who reads braille. Several teachers respond that the number of pupils may not be the most crucial thing, even though it is an advantage if there are not too many children in the class. More important, they believe, is that the braille reading pupil is placed in a class or group that has a calm climate, if there is a choice between several groups.

The teachers have also told about how it has worked when they have divided the pupils into smaller groups. Dividing the pupils into small groups or allowing them to work in pairs is a common way of working in lower ages. Several teachers perceive that it is favourable for the pupil with a visual impairment when the class is working in this way. A group with fewer children provides a better opportunity for the child to grasp the situation and the others involved. The pupils with visual impairment are also often perceived as both more active and involved in a group constellation comprising fewer children. Pair-work often seems, according to many, to work best. Here's what a teacher says during first grade:

"Yes, if they are just two, it is easier. The larger the group the harder it becomes. (...) The other children tend to take over. They do the writing and counting and whatever they are doing. She takes no initiative of her own. There is so much that she doesn't apprehend, the other children's facial expressions, gestures and so on. She can hear what they say, but there is still a lot that she misses. But if they're only two it is better, then she becomes much more active."

(Resource teacher, 1st grade)

A class teacher gives the following description:

"We have noticed that even if they are quite few, everyone becomes passive really quickly, if they are more than two. That's why they often work two and two, because then they both contribute more and that makes both children active."
(Class teacher, 1st grade)

But the ideal group size, where pupils with visual impairment can be active and participate may also vary depending on the nature of the task to be done:

"Yes, it depends entirely on the task. You noticed when they were reading, then it works fine being the whole class together. When we have maths, I think they shouldn't be more than six, seven pupils. If she is to keep up with who's saying what and if you're going to present different ideas about how to solve a maths problem. She really enjoys lessons when there is a small group."
(Resource teacher, 2nd grade)

We also asked the children about how they would prefer to work – alone, with one other child or in a group with several children. The children thought a lot about these questions and really tried hard to think what would be the best. Their choices were different depending on the nature of the task they were going to work with. Carolina responds as follows:

"Well, if we are going to work with the theme of space, for example, I would probably like to work in a group, because I find it a bit hard to figure out by myself how you can, say, make a picture of space. And I think it's fun to have friends."
(Carolina, 3rd grade)

Gustav replies as follows on how he would choose to set about a mathematics task that involves measuring various distances:

"If you were to measure the entire classroom ... well, then I guess I would like to work with a friend. (...) it would probably be easier ... because it's very hard to measure if you are just one. Then you have to change the position of the tape and hold it where it ends and stuff!"
(Gustav, 3rd grade)

Examples also emerge where the pupil with visual impairment takes a leadership role when you are working in groups.

"Yes, sometimes it's me who suggests ... I always try to ensure that it becomes as fair as possible. So there is not one who sits and stares and gets to do almost nothing and one who does everything and one who just sits and relaxes."
(Desirée, 2nd grade)

But if, for example, you are to write a story, then the children are quite agreed upon that it is easier to work alone.

"I think it's more fun to write when you're alone. Because then you can decide for yourself what you want to write about and all that."
(Emma, 3rd grade)

Carolina agrees:

"Alone is best. Because we have been doing this kind of story in a group, two friends and I, and we just keep fighting. 'We cannot ...' 'But, can't we include that one?' 'No, I don't want to have that' and so on. 'We'll write like this instead, in my words ...' 'No, I think like this ...' We can never agree!"

(Carolina, 3rd grade)

Methodology

There are some school subjects which are described by both the teachers and the pupils themselves as being particularly complicated when it comes to creating participation and to participate. For the blind children art is mentioned, both the individual creativity and the possibility to be inspired by friends' pictures, and also to get access to the information provided in the form of illustrations in textbooks. When the class is painting the blind pupils often get to do a different task. One pupil says:

"If we are going to paint then usually the [class teacher] says to me 'you do not usually do this, you do not need to worry about it, I only say this to the others."

(Carolina, 2nd grade)

When asked what she can do instead the pupil says:

"Then I do other things (...). Sometimes I paint with sand and stuff. But if they are going to draw for example ... I cannot draw because I can't feel it, so then I get something else, like nice stickers and things that you paste and can feel and everyone else just goes 'o lucky you!'"

(Carolina, 2nd grade)

From the educationalists' side the intention is that the pupil who is blind should also take part in certain activities when the pupils are painting. The purpose is that the pupil will gain an understanding of what it is to paint and how to work with a brush, but perhaps also for the pictures to get coloured and become more attractive to look at for the sighted pupils. However, several pupils express that it is often only experienced as messy to use paints and markers. As in several other subjects, it is time-consuming for the pupil with visual impairment to work with creative activity. The aspect of time as well as fears of isolation is experienced as a dilemma for the teacher.

"It takes a long time with creative activities, that is creating pictures. Because she needs to feel, she needs to think, she needs to realize ... and it's obvious that she has no chance of taking in and being inspired by the others ... and naturally she does it her own way, she does."

(Class teacher, 2nd grade)

But there is a will among the teachers that art should be a topic where everyone can participate and create together, that everyone can participate and interpret each other's pictures. One teacher expresses the purpose of the topic in this way:

"To interpret art – I mean with different emotions or senses, that is, whether or not I can see ... the task has got to work for all the children"

(Class teacher, 1st grade)

When you are working with tactile information with all the pupils in the class, the experiences are very positive. A teacher describes a task in which the pupils were to create tactile postcards. The children closed their eyes and felt each other's works and then they talked about the experience.

"I think it was an eye-opening experience for the children. We put the cards up on the wall and many children brought their parents and wanted them to feel the cards."

(Class teacher, 3rd grade)

Mathematics is a subject where pictures have a great illustrative importance in textbooks, particularly at lower elementary grades. Several educationalists express that it is difficult to adapt, tactually, parts that are visually illustrated with the purpose of the task maintained. Sometimes the main purpose of the adaptation is not for the pupil to learn the special element, but the important thing is that the pupil has the same material in front of him during the preparation in class.

"Sometimes you get to adapt ink print material that is great for those who see, but gets pretty silly when you adapt it. But it has to be adapted just so that she should have the same material as the others."

(Resource teacher, 2nd grade)

One teacher expresses the dilemma as follows:

"I don't know how to teach [the pupil] this way of thinking that the others learn. And this is what makes it difficult to include him with the others who are sighted and do it visually."

(Class teacher, 2nd grade)

Mathematics is otherwise a subject where teachers often choose for pupils to work together in small groups. One teacher expresses that they deliberately teach the pupils to tell their peers clearly how they solved the task.

"We are there only as coaches. When the children report what they have done they should think about how they express themselves so that everyone understands. How can I verbally reach as many people as possible, without showing any pictures."

(Resource teacher, 2nd grade)

The abacus is a calculating frame used in the education of pupils with visual impairment. One team of teachers has used the abacus in education for a group of pupils where the visually impaired child was included. Teachers describe that this has been favourable for all the children. It becomes a way of working where all pupils can work on maths on equal terms.

"It's been a great way for everyone to practice maths ... it's good training for the brain, mental arithmetic and the positional system. The abacus has a high status, most find it great fun."

(Resource teacher, 2nd grade)

Two pupils in the interview material work on other sections of mathematics compared to their peers, depending on their cognitive level. In one case the pupil is at a high performance level and is far ahead of her fellows and in the other case, the pupil needs a much slower learning pace than his classmates. Although the situation is

very different for the two pupils, the dilemma that the teachers face is described in a similar way. One teacher says:

"She uses another maths book than what they have. So in the classroom, it is difficult to include her in maths. The others are not exactly working together either, but each one is sitting with his or her book working on different pages. But they can, of course, help each other because they might have been working on that page. But she is completely on her own. So math is the subject which we find most difficult to include her in."

(Resource teacher, 2nd grade)

Another teacher describes the dilemma, from her situation:

"Sometimes we have told stories with calculations using concrete materials and here [the pupil] can join in. But otherwise it is difficult because the others are far ahead. Then they just sit and sigh."

(Class teacher, 2nd grade)

English is another subject where pictures are an important source of information in the early school years. Here the educationalists express that it is difficult to find suitable alternative solutions that make the task motivating and where the purpose of the task is retained. One teacher says:

"English can be difficult. Because so much is based on pictures, there are films and there are pictures and it's hard to figure out what to do ..."

(Class teacher, 3rd Grade)

One teacher tells how they have tried to adapt the teaching of English to include the pupil who is blind.

"We have had toys which she has had in front of her on the desk, and which she has felt, a train, a flag, a teddy bear and so on. But I must say, it's not easy. It's okay as long as it is quite uncomplicated English. But it is in fact about how to convey pictures to her, that's what it's about really. Then we have been walking around the classroom and she has had a friend with her 'Go to the door, go to the window,' and so on, and so you learn words in English."

(Class teacher, 2nd grade)

In physical education lessons are held in another locality or the activities take place outdoors. Physical education (PE) is, of course, a subject that contains a lot of movement and activity and is therefore experienced by teachers as quite difficult to adjust so that the pupil with a visual impairment can participate. One teacher describes an incident in the sports hall where the pupil experienced great discomfort by her peers' movements around her.

"Suddenly she stood there howling and was terrified because the others ran about. She panicked. Maybe it was like being dropped on a six-lane motorway without being able to see. Such things are difficult to predict."

(Class teacher, 1st grade)

Sometimes the pupil with visual impairment gets to do alternative exercises when the classmates, for example, do ball games. Resource staff working with both blind pu-

pils and pupils with residual vision describe that the pupils sometimes get to do other exercises than their peers. A resource person for a blind pupil says:

"We have PE outdoors now and it's really hard. They play rounders mostly and tag and then [the pupil] and I have gone for walks instead. But PE indoors works better, then we are much more involved. Then we run around and whatever. I run together with him, and he can climb the wallbars and jump on the jumping mat, it works better."

(Teacher's assistant, 2nd grade)

There are also thoughts among the teachers about how classmates may perceive the fact that the pupil with visual impairment does other exercises. A teacher explains:

"PE is still difficult. Her mother had heard that another girl had asked, 'Why can't you join in such and such?' But you have different perspectives on this. Other children may feel that she cannot participate, while we, the adults, are eager to always offer her to join in. Although with the ballgames it's almost impossible."

(Resource teacher, 2nd grade)

The pupils themselves also express that PE classes sometimes feel "boring". They give examples of activities that are difficult to participate in, such as ball games and various "tag games." When one of the girls who is blind, and who is generally very interested in sports, is asked why she does not like PE classes, she replies:

"It's very noisy there and so much echo, and it can be hard to keep up with them when you're running and all that."

(Emma, 3rd grade)

But there are also teachers who say that PE works very well for the pupils. The girl who is blind has opportunities to participate in most activities during the physical education class.

"It works great, the sports teacher is really good and positive and she thinks this is fun. [the pupil] loves rounders and that says it all, doesn't it? She had said that she didn't want to run together with some of her classmates, because they run too slowly, they run together, each one holding on to a band. No, it works great most of the time, it's as if sometimes I don't see that she is blind anymore."

(Resource teacher, 2nd grade)

The significance of the reading medium

All children in the study group were recommended braille before starting school, after a visual assessment at the Resource Centre Vision. It is, of course, a big difference between the pupils who are blind and those with some residual vision, both in how teachers carry out their teaching in reading and writing as well as in the children's attitude and motivation for braille. For the blind pupils, braille is an obvious alternative, for them it's more about motivation for reading, while for the pupils with some vision the reading medium itself is in focus. There are questions concerning the proportion between the two reading media and how a pupil with visual ability could become motivated to learn to read with his or her fingers. In the case of blind pupils, other thoughts may exist, such as how the sighted actually read. A teacher explains:

"... Once he said something like this 'How do the other children read?' And I said that they read with their eyes. 'How do you mean? How can you do that with your eyes?', he said."

(Class teacher, first grade)

A blind pupil is asked if she believes that it is easier or harder to read with your fingers than with your eyes, and the answer is:

"It is more difficult, that is why I read a little slower perhaps than the others. Because if you read braille, you have to feel like this, change lines and so on. When you read with your eyes, you only need to look at the words and you can skim, and read faster like this. I don't know how to explain it!"

(Carolina, 3rd grade)

But thoughts can also be found in the blind child if it is at all possible to learn to read as a blind person.

"We were in the library and then a child sat down and started reading aloud, and then I said to him to come and listen. And then [the pupil] said 'I'll never be able to read.' Yes, I said, you'll be able to read in your way. And then, of course, you can read to your children. And then he lit up and was very happy."

(Teacher's assistant, 1st grade)

For two of the pupils with some residual vision the recommendation to read braille was, for various reasons, not obvious. Several considerations were made before it was decided that the main part of the reading instruction would be in braille. For these two pupils, it has also been difficult with acceptance and motivation for the reading medium. One of the pupils also expresses that he does not understand why he should use braille. A teacher says:

"I had the idea of asking him when he had almost finished half of the term. 'Do you know why you are learning braille?', and he said 'No.' Then we sat down and talked for a while about it, and I said that it's because he has to look so closely at what he is reading. I thought to myself that it's crazy that he does not know why!"

(Class teacher, 1st grade)

The proportion of braille is gradually decreasing during second grade for both of the pupils and is then less than half of the reading and writing activities at school. These pupils also develop better in ink print reading and this strengthens even more the motivation for this reading medium, and reading in particular. Both pupils stop using braille completely during third grade and all reading and writing is now in ink print. The attitude towards reading in these pupils changes radically, especially for one of the pupils.

"Yes, it turned out to be a release for him to escape from braille. He reads willingly and writes a lot now. He's really proud of his long stories that have good content."

(Resource teacher, 3rd grade)

On the other hand, it was an adaptation process for the teachers to accept that the children would abandon braille. The teachers had invested much time, energy and commitment in convincing the child about the benefits of braille and in teaching this reading medium to the child. The teaching role changed to some extent.

A class teacher says:

"The decision sort of emerged slowly and I can imagine that the decision was pretty painful for the resource teacher, because she has devoted so much effort to braille. (...) I can understand it, it's been difficult to justify to the pupil why he should read braille, and sometimes the resource teacher has tried to do the impossible to convince him. And then you are suddenly supposed to drop it."

(Class teacher, 3rd grade)

Another class teacher expresses it this way:

"Yes, we protested loudly. I thought it was wrong, because if he had almost taken on a new language, I thought he should keep it, so we sulked together ... it's been a long journey, a process, even for us."
(Class teacher, 3rd grade)

In one case, it was pointed out that also the classmates' image of the pupil changed when he switched to ink print. The class teacher says:

"It even affected how the others saw him. Whether one likes it or not, I think it did. They could sit next to each other and read a book. Somehow, he became more like the others. It's hard to pinpoint. I also think he feels more like the others."
(Class teacher, 3rd grade)

According to the educationalists, it has sometimes been difficult for the parents of children who have some residual vision to accept that the child should learn braille. They think about what impact it may have had.

"Of course I wish that they would encourage the pupil more in using braille, because you feel a resistance from the parents against braille ... I still wish we had stimulated it more to make it more pleasurable and natural."
(Resource teacher, 2nd grade)

For the third child who has residual vision, the choice of braille seemed more obvious. This pupil has never been in any doubt about which reading medium he prefers. He also expresses that you can see the advantages of being exclusive in the class. When asked which reading medium he prefers, he replies:

"Braille! As everyone thinks it is so amazingly cool that I can read it. It's cool to read in your very own style."
(Adam, 3rd grade)

The reading ability and especially the reading speed is, according to the teachers, of great importance for the pupil to have the opportunity to participate in the cooperation with classmates. Two of the blind pupils have in third grade developed very good reading skills and their participation has, according to the teachers, increased over the years.

"I think she feels involved. She reads so fast now that she keeps up even when there is a fast reader who reads aloud. It was not like this in second grade, for example, then it was hard for her to keep up in braille when the others read ink print."
(Resource teacher, 3rd grade)

But you can also find a positive aspect in that the pupil reads slowly but correctly. One pupil is in a reading group where friends also read slowly due to uncertainty about decoding characters. The teacher says:

"And then it's good that she is a good reader, because when she reads out the words and the others follow in their books, the poorer readers can benefit from her being such a good reader. But regarding reading speed, she fits in well with the slow readers."
(Class teacher, 2nd grade)

Braille was a new acquaintance for all educationalists who were going to work with the pupils in this study group, except for one who had previous experience teaching a pupil with severe visual impairment. The teachers generally express that they received a good instruction in braille and good support on how to work methodically with the pupil. But since the reading medium was new to them, they have largely consolidated their knowledge of each braille letter at the same rate as the pupil has learned the letters, which is considered a major problem.

The teacher with prior knowledge of braille emphasizes that it is important as a teacher to be knowledgeable about the reading medium that the pupil will learn, in order to be able to stay ahead of the pupil and quickly acquaint oneself with a text and be able to adapt materials for the pupil. Most respondents, especially class teachers, emphasize in this context that there is not enough time for them to consolidate and develop their skills in braille.

"I had to learn alongside him. I would have needed much more time for training. Then when he started to know it better I could bring an alphabet so I could see what the letters looked like and help him, I cheated a little bit like that."
(Class teacher, 3rd grade)

The reasoning about the roles of teacher and resource person returns, linked to the reading medium. It is often the resource person who has most knowledge of braille, which means that this person gets a prominent position in the child's literacy learning. One class teacher says:

"...since [resource teacher] mostly works with her, it is unfortunate that I don't involve myself to the same extent. You think about it all the time, but it is impractical, as I have a whole class to care for. But I have my 'key' [braille alphabet], and I can decipher if I have to, so I'll practice more and more, if I only had the time."
(Class teacher, 3rd grade)

Another class teacher says:

"I have relied very much on [the resource teacher], I've written something sometimes and I have ... but my knowledge of braille is almost non-existent. It was pretty fresh when I took the course and I have an alphabet that I try to use, but I haven't had the time to keep it up."
(Class teacher, 3rd grade)

Organizational level – summarised results

Resources

- Important to have additional staffing in the group.
- Equal level of education is of great importance to the cooperation in the classroom.
- Flexibility of roles between teacher and resource person is important.
- Additional planning time is essential - both individual time for the resource person to adapt the material, and common planning time for class teacher and resource person.
- Class size should be kept down.
- Clear information about the external support offered is important.
- Teachers ask for more support and technical backup around the pupil's computer equipment.

Physical Environment

- Important to consider the layout of rooms and the child's placement.
- Important that the accessibility of technical aids at the child's place does not prevent contact with peers.
- Portable computer is an advantage.
- Important to understand what the pupil's reluctance to use technical aids may mean.
- Distance camera is of great importance for the sense of inclusion for children with some vision.

Teaching methods

- Important to have a calm climate in the group.
- Pupil's participation in tasks often increases in smaller groups.
- What working method that works best depends on the subject, type of task and teaching material.
- School subjects where, according to teachers, it is more difficult to create good opportunities for participation are art, mathematics, English and physical education.
- Most pupils have a need for working alone in a separate room sometimes, in order to work in peace or get extra support.
- The reading medium braille puts great demands on everyone involved - teachers, parents and the pupils themselves - in terms of time, expertise and motivation.
- The resource person often takes a great responsibility for the pupil's learning of braille.
- The literacy learning process for pupils with some vision is more complex and needs to be monitored closely - the choice of main reading medium may change.

Group Level

At group level the importance of group dynamics is raised and the respondents highlight the social relationships between pupils with visual impairment and other pupils in the class in different ways.

Social relationships

When the respondents describe how the interaction between pupils in the class functions and how the visually impaired pupil's participation appears in this respect, three main aspects emerge – the frequency and nature of the child's interactions – that is, how often, and in what way the visually impaired child interacts with friends. The child's status in the group is also discussed, and finally there are thoughts on how you can influence the social climate in the group so that all pupils can feel involved and participatory.

Frequency and nature

When the teachers describe the children's social relationships with their classmates during the first year, both nature and frequency of the relationships vary a lot. Some of the children with visual impairment are described as having about the same type of relationships with sighted classmates as the average pupil in the class. For other children it has taken much longer and been hard to enter the group. It may take time for pupils with visual impairment to get an understanding of what other peers are in the class, and even longer to identify the individual children. It seems as if some of the children in the beginning experience the classmates more as an unidentifiable group than as individuals. These children have also been prima-

rily oriented toward adults. Some of the children appear, during first grade, not to differentiate between relations with other children and other adults. Here is what one pupil in first grade says:

"... I usually play with ... maybe a teacher or a friend, or I play by myself with my doll, that's what I usually do."

(Carolina, first grade)

Another pupil describes what he usually does during breaks:

"Go to the swings... or go with some children, that's what I do ... go with some children."

(Frederick, first grade)

When asked about the names of the children that he usually plays with Frederick responds:

"I don't know ..."

(Frederick, first grade)

A couple of children need a lot of adult support in the contact with other children, otherwise they often end up sitting passively by themselves. To initiate contact with their classmates is described as being very difficult for some children. Even for those children who are described as having good social skills and are happy making contact with other children, it can be difficult to relate to more than one child at a time. One teacher says:

"She's more directed to one at a time, she is not interested in being with a larger group, no matter what they do. If there is a snowball fight or if they play 'Ball in the jar' or 'Hide and seek' then there are a lot of children involved, but she is sort of stuck to one friend. So there's a shortcoming. Though I do not know ... I don't think she feels that she is not participating."

(Class teacher, 1st grade)

Some educationalists describe the pupil's relationships with other children as rather unequal. In some of the children in the class there is a tendency to want to "look after" the pupil with a visual impairment, often more than the pupil actually needs. One resource person describes it this way:

"Many of them like to go and hold his hand, like they're leading him around. And some children come and join if we sit and play (...) they come up to us and they want to play with us. But it's not as if they actually play with him, build with him. On the whole it's more that they are friendly and want to help him."

(Teacher's assistant, 1st grade)

But the relationship with other children may also have different characteristics. One class teacher describes the pupil's relationships with her classmates and with children who are a bit older:

"Those who are a bit older try to take care of her, they seem to think like 'ok, let her join in, we have learnt that everyone should be included'... a bit like that. But among those who are the same age as her, it is more equal. They play with her because she is a fun friend ... you know."

(Class teacher, 1st grade)

Other children can be curious and a little impressed with the braille reading pupil's equipment and different reading medium and, this may be the beginning of a contact between the pupil and the classmates. Then there are, of course, also examples of ordinary initiatives for making contact in exactly the same way as between sighted children:

"There is one boy who likes to come and stand by [the pupil] for a moment and ask about the braille dots and all that. But then there is this boy that he is best friends with, and he likes to ask what [the pupil] is doing and they tell each other what they're doing."

(Class teacher, 1st grade)

For some of the children, the relationships with other classmates develop in a positive way during second and third grade. Both the children with visual impairment and the other children in the class have become more secure in the school environment and with each other. For some children this means that their social network is expanding and that the pattern of relationships change in a positive way. Educationalists feel, though, that the climate in the group is something that they need to work with all the time to help the children (not just the child with visual impairment) who risk being left out:

"We worked very much from the beginning so that he would become a natural part of the group. In the beginning the others were a bit afraid of him. Now you can see that he is one of them. (...) Because [the pupil] often was a little wayward against the others. He could suddenly bump into one of them, so they were a little unsure of him. I think he was a bit unsure about them too ... he was afraid if they came too close. Maybe he feared that they would hurt him, he might have had that experience. But it's not like that now, but we have had to work very much with this during first grade."

(Resource teacher, 3rd grade)

But for some of the other children the relationship patterns in the group don't change so much in second and third, but they retain their position on the outskirts. The respondents can see several reasons for this. The child with visual impairment often has a slower tempo than the sighted children, and lack of initiative to "help themselves" in a group is another difficulty for a few. But perhaps the most important reason, presented by several educationalists, is that the child loses so much information about what is really going on in the classroom, which implies that the pupil is easily perceived as passive. Everything cannot be interpreted verbally and even with verbal interpretation the description of what is going on is much too fragmented, which creates uncertainty in the child. This makes it easier to seek safety with the adults in the classroom. While some children in the group seem quite satisfied to have relationships preferably with adults, others appear to be more aware of their isolation, wishing it were different. This is what a girl says as she looks back at her primary school years:

"... I have brought it up on the class council that ... I have missed meeting friends in this class, I have missed that. I think they should play with me sometimes, I've mentioned it plenty of times on the class council, certainly five or six times and I have said that nothing happens and that now you must play with me sometimes ..."

(Carolina, 3rd grade)

For some children it can be difficult to interpret the social codes, maybe partly due to that they have had much adult contact rather than with other children:

"I guess that she's been with a lot of adults, even if we really work hard for her to be with other children. So she has become quite controlling in her way of being, and it may not always be popular with other children. She can be very definite in her opinion, and sometimes when other children come up and ask her something, they may not always receive a friendly response and then they lose interest in trying. Children do not allow themselves to be as controlled as adults do ..."

(Class teacher, 2nd grade)

Of course there are many reasons why, despite a lot of effort, some children do not manage as well as others do. For instance, keeping up with sighted children's pace can be difficult:

"She is pretty slow, and still quite obstinate ... I think the working pace is hard for her. And it just so happens that the others have found their best friends already, that is they're already formed, and they have been for quite some time, and it can be very difficult to find your way in."

(Resource teacher, 3rd grade)

The pupil herself says that she usually asks her classmates if they want to play at break time:

"... but everyone is busy, everyone is already busy. Everyone has already decided, I cannot keep up, you know ..." (Carolina, 3rd grade)

For other children the interaction with peers works better, they have managed to find effective strategies to "enter" an activity:

"He comes into the room, he stops and waits and tries to create an image of what they're doing. Then, when he is clear about what they are doing, then he approaches and asks whether he can join in and then he sort of drifts in. Before, he wanted to get into the game instantly and stomped around and the others were extremely irritated. But this strategy works very well."

(Resource teacher, 3rd grade)

For the two children who at the beginning of second grade got a distance camera in the classroom, there was a positive effect also regarding the social contact with peers. The teachers felt that the distance camera had a significant impact on increasing pupils' interest in what went on in the classroom and also the interest for the other pupils. Both pupils are now perceived as more active and more interested in what is going on around them. A class teacher describes one of the pupil's changes like this:

"She can take part in what happens in the classroom in a completely different way now that she has got the camera, there's a huge difference. She really checks her classmates out. I feel as if the children count her in in a completely different way now. She's really within the class now, it is going in the right direction, it really is ..."

(Class teacher, 2nd grade)

Two of the blind pupils are described by educationalists as very well-functioning socially. They have very good social skills right from first grade, quite on par with their sighted classmates. Both these pupils have always had a high status in the class and many of their classmates want to be with them. For these pupils it seems

that relationships with classmates are not affected by the visual impairment or that they have a different reading medium:

"I have never seen her disability as something special; she is like anyone else in the class. There may be other children who need more support than she does, who do not help themselves to what they want and who are not visible in the group. It's because she's a person who can help herself, she is smart and she tells you if she needs help. In that way she gets a lot in return. She is altogether well respected, there is no one who would ignore her."
(Class teacher, 2nd grade)

The second pupil's resource teacher says:

"She is often chosen by friends, just like the others, and she can choose who she wants or does not want to be with."
(Resource teacher, 2nd grade)

Status

The pupils' status in the group varies during first grade. It seems, in this respect, to be no difference between pupils who are blind and those with residual vision, nor between boys and girls. Other factors appear to be of greater importance. In those cases where the pupil is considered to have high status, this is sometimes mixed up with the pupil being cognitively competent and that other pupils are impressed by how much the pupil copes with even though he or she has a visual impairment.

"For example, they think she is very talented because she can read. As we go through homework and such, and she is reading, you can see how the others are watching and getting impressed!"
(Class teacher, 1st grade)

It also appears that interesting technical equipment can function as status-enhancing, like the fact that pupils with visual impairment have their "own" teacher:

"Sometimes he has a teacher all to himself. That is, of course, what all children want in first grade (...) and the other 23 pupils will of course have to share one of us, while he has his very own. And this enhances his status."
(Class teacher, 1st grade)

The pupil's resource teacher confirms the picture:

"... because he has special things and when he had his own work table, there were 23 other envious pupils that also wanted a table of their own, yes it is very status-enhancing to have your own special table ..."
(Resource teacher, 1st grade)

Personality factors are also highlighted as important – pupils who are socially interested and "help themselves" are also described as more involved and with a higher status in the group. The pupil in the study group, who is described by the teachers as having a low status, is also described as having a more deviant behaviour and lack of social interest. The low status is here linked to individual factors rather than factors in the surroundings.

An attitude of not expecting the pupil with a visual impairment to be able to have a high status appears from another educationalist. This is interesting and raises the question of how expectations affect the outcome.

"... she has actually quite a high status (...) it's surprising, really!"
(Resource teacher, 1st grade)

The pupils' status and place in the group hierarchy seems to be quite constant over the three years. Nevertheless, the personality-related factors are emphasized more the older the child gets. As the pattern of relationships in the children's group changes, it becomes increasingly important to make a positive contribution in play and interaction in order to be reckoned with and participate. One teacher expresses why she believes the pupil's status is high:

"It is his ability to play and participate on almost the same terms in the free play. It is very equal..."
(Resource teacher, 3rd grade)

During second and third grade the educationalists also reflect, more than before, on that the status may vary depending on the actual activity:

"It depends quite a lot on what we are doing. In reading activities and the understanding of what you are reading she has status, but when it comes to being a playmate she is not so highly regarded, there she is someone who is easily forgotten."
(Class teacher, 3rd grade)

Furthermore some teachers see a positive development in the group as a whole over time, which also favours the pupil with visual impairment. Several describe that increased security in the group and more stable relationships help to create an inclusive atmosphere. Here is what one class teacher says:

"... now they have all probably found each other more, I think. (...) They've built something there."
(Resource teacher, 3rd grade)

Some concerns about the future are expressed by a class teacher when she sees how tolerance over time may not be as high as in the beginning:

"... in the beginning many children were very considerate (...). Now you can tell that sometimes they don't have the same patience, but want to move on. One can detect such feelings sometimes, and there will probably be more like this when she gets older. They are not quite as tolerant any more."
(Class teacher, 3rd grade)

Work to promote interaction

All educationalists emphasize the importance of consciously working to promote interaction between children in the classroom. A favourable social climate is regarded by the majority as a prerequisite for everything else in the school situation to function. Work can and should take place at different levels. On group level you need to work on strengthening the social climate and help to create an open and tolerant atmosphere. In first grade when the children are new to each other and will become a group, this is, according to many, particularly important and it gets even more important when a pupil with visual impairment is in the class.

"We have been working with group strengthening exercises and drama exercises and this has been a good way to get to know each other better."
(Resource teacher, 1st grade)

It is also important to make the work with the social climate in the group as something that is naturally present in the school work. This is what a resource teacher in second grade says:

"We have a moment in class, ten minutes, when we're talking about friendship, how to be together and what to say to each other and stuff. And sometimes something has happened that you need to talk about."
(Resource teacher, 2nd grade)

It is important to raise awareness throughout the group on the subtle, non-verbal signals which a person with visual impairment misses in the interaction and how to make it easier for the visually impaired to understand the course of events and contexts. That way you can avoid misunderstandings and unnecessary conflicts:

"We taught the other children that we have to look at each other's facial expressions and say 'You know, I get really sad when you do this ...'. We have tried to teach them to put their feelings into words, what they would otherwise only show with a facial expression, so somehow I think it has succeeded, perhaps not for everyone but it's still good when you can express it in words instead of just showing it."
(Resource teacher, 2nd grade)

Many of the educators believe that exercises with blindfolds or simulated optics are useful especially when you want to increase understanding of the group to promote participation and interaction:

"Then we had some exercises in the spring when the other children got to try simulated optics and experienced what it is like not to have full vision. We used the simulated optics in the woods and they had to try to follow tracks and so, throw balls into a bucket and see how hard it is. So that they understand that [the pupil] may have to come closer just to have a chance."
(Resource teacher, 2nd grade)

They also emphasize the importance of simultaneously working "from the other direction", and by helping the pupil with visual impairment to be as independent as possible, one hopes to increase the pupil's ability to interact with the other children. Working with independence may involve practical things like mobility, orientation and location in the classroom:

"We also try to work on her to get around more independently in the classroom (...). She has to walk on her own and find the other children. But this is what is difficult when you cannot see, to find the others, you do not have eye contact. So we'll have to work with this. She must get along with other children ..."
(Class teacher, 1st grade)

Also the more psychological aspects are highlighted, such as the importance of building the pupils' self-esteem by giving them tools to make contact with the other children and understand how the interaction works:

"Last term she [the pupil] did not know how to do it right. She didn't know how to walk up to other children and ask if they wanted to play ..."

(Resource teacher, 1st grade)

Then it is important to encourage the pupil's own initiative:

"... I think it's important for us to push her, instead of us responding to what the others do, we can tell her to go and check it out. That she has to go there alone."

(Class teacher, 1st grade)

One educationalist also emphasizes, when she looks back, that the work with the child's independence must be present in the consciousness of all those around her all the time, right from the start, and that it can be hard to try to change patterns already fixed, when the child starts school:

"You have to put some responsibility on the pupil himself, and the pupil has to learn to be a little offensive. And that's a huge problem. Because I personally believe that this must be established much, much earlier. (...) The parents must, they must ensure that the children get out to play much more often with sighted children, right from infancy. So that they become accustomed to help themselves, take initiative and ask 'what are you doing, where are you, what are you up to, can I join in?'. That's stuff that I had to teach [the pupil], and yet she was seven or eight years old. It's far too late."

(Resource teacher, 3rd grade)

There are many thoughts and ideas on how to choose exercises that provide opportunity for exchange and cooperation between children. It also seems important, at least sometimes, to consciously plan what children should work with together, in pair exercises or group projects. Often there seems to be a lot of thought behind the constellations, in hope of deepening the relationships between the children and increasing the pupil's social circle. One educationalist thinks like this:

"Then we chose a friend that we knew she would benefit from ... so that she would not only be next to someone ..."

(Resource teacher, 1st grade)

Thoughts on the pupils' situation outside of the classroom also find their way into educationalists' reasoning and many maintain that it is important to involve children themselves in making sure that no one is left out. "Break friends" is an example of how you can do it:

"There are two children who are 'break friends' and make sure that everyone has something to do during the break. It's not that they need to go watching all the time, but if they see someone standing alone, they should go up to them and ask who they would like to be with. They're wearing a vest, so that others can recognize them and come up to them if they want help."

(Class teacher, 2nd grade)

In one of the schools there is a special place in the playground where you can go if you do not have anyone to play with, and the idea is that other children can come there and ask if you want to join in. A good idea, but not always so easy to get it to work in practice as understood from the following description:

"But really, I'm going to tell you now ... the sad thing is that the one who is left out during the break is usually me. Because no one ... I cannot find ... we need to sort this out in class. I cannot find my way around the playground. And no one comes up to me and I cannot go to them. You can go and stand at this place [special designated spot in the playground where you stand if you are alone and want someone to play with], but it just doesn't happen. They usually don't look there (...). I can find my way to [the above location] where we usually stand, but ... sometimes a friend comes up to me ..."

(Carolina, 2nd grade)

Many describe, not unexpectedly, that the visually impaired pupil is generally more involved in the controlled classroom situations than in more free and unstructured, situations such as playtime. The educationalists' ambition of working to create many opportunities for interaction between the children in the classroom, is that this should also reproduce itself beyond the classroom walls. Sometimes it succeeds, but it is also important to be aware of that it is difficult to control the dynamics that occur naturally in the group, and which is based on the children's own choices. That it is easier to influence the interaction in the classroom, is expressed by one of the teachers:

"Absolutely. Because we can control it in there. That's one thing that is easier for us in the classroom compared to during breaks and in the after-school recreation centre. The fact that we can actually decide."

(Resource teacher, 2nd grade)

The educationalists have clear ambitions for their work, but are aware of the dilemma of how much they can interfere with children's relationships. One can consciously combine different children in group work to broaden their relations.

"... they learn to cooperate with different people. They can sigh 'No, I don't want to work with so and so ...' ... but they're doing a very good job actually, and they can work with different peers."

(Class teacher, 3rd grade)

But are the activities being reproduced in the breaks?

"No. And there they have their friends ... in this class it's like that, they have their specific friends. And they are quite strict about this."

(Class teacher, 3rd grade)

In some schools there have been attempts to control children's choice of friends even during breaks, with varying outcomes. The balancing is of course difficult in terms of how much adults can decide about the children's relationships. One of the pupils with visual impairment experiences however such an approach as very positive.

"We have drawn cards before, who should play with whom and in which group, in pairs. I think we should continue with that which was great, because it was these playing cards, and say I get a three and then another gets a three. And then you shout 'Is there anybody who has a three?', 'Yes!' says somebody and comes up to me. And then we play and so do the others too. I think we should continue with that."

(Carolina, 2nd grade)

Group Level – summarized results

Social relationships

- Pupils' relationships with their sighted peers as well as their status in the group vary greatly in the study group
- There seems to be no difference between the blind pupils and those with residual vision regarding their status in the group
- Some of the children in the study group appear to have as equal relationships to their classmates as their sighted friends
- In some cases, the sighted friends take on a caring role towards the child with visual impairment
- For some children it is very difficult to get into the group and they are to a great extent adult-oriented
- Some children seem to elevate their status in the group by being competent or by having attractive materials and their "own" teacher
- It is important to consciously work to promote participation and interaction within the group using specific methods

Individual level

At the individual level it is about various elements of the individual child and how this, according to the respondents, affects the child's participation in the group. We have chosen to focus on two main areas, partly different aspects of individual potential in the pupils, as described by educationalists, partly pupils' self-perception and how they think about their situation in school.

Individual preconditions

With regard to individual preconditions that are described as important by the respondents, it is mainly about how independent the pupil is in different situations, the pupil's social skills and behaviour and how this affects cooperation and participation. Finally, the importance of the specific difficulties that are associated with the visual impairment are discussed, and what limits these difficulties entail in terms of opportunities for participation.

Independence

During the first year in school all the educationalists describe that the children have a great need for a lot of support from adults in both the classroom and in other environments in school, for example during breaks and in the hall. There is a lot which is new to the children, such as premises, staff and some classmates. For several children it seems to take quite a while before they feel secure in all that is new. This is how some educationalists describe their pupils and their need for support in various types of situations during first grade.

To perform a task:

"Yes, there in the beginning he never knew what he should do. If he were to write on the Perkins machine then you had to sit next to him and show him every letter. Then he needed an adult next to him all the time to show him every letter, when he was writing."

(Resource teacher, 1st grade)

To take initiative:

"She needs a lot of support, she really needs our help to develop this ability. Because she's very ... what can I say, she's not used to thinking for herself, to take initiative on her own. I don't know why, but it is really hard for her. Probably she's used to everyone doing the thinking for her all the time."

(Resource teacher, 1st grade)

General need for verbal interpretation:

"Then, she needs a lot of support that you do not think of. She needs someone sitting next to her saying: 'Now [X, friend] is going up to the whiteboard ... and now it was [Y, friend] who dropped the pen case on the floor. She needs verbal description."

(Resource teacher, 1st grade)

All of the above examples appear frequently in the group of pupils. Some children develop, during the year when they become more secure in their new environment, a higher degree of independence, while others continue to be dependent on a lot of support and encouragement.

"He is more independent now. It is himself who has signalled this. When he was sitting with a maths book, he said: 'Now [X, Resource teacher], you can go help the others ...' Then he will come if he needs help. So, that works. He can manage much longer periods of time now."

(Class teacher, 2nd grade)

To initiate new activities can be difficult for many pupils with visual impairment; it may apply even to those pupils the educationalists judge to be performing well in relation to their classmates. It may easily be that the pupil remains passively seated with a task. One can wonder whether it is the habit of getting a lot of adult support, or whether it is the lack of visual stimulation that causes this to seem difficult for many pupils. Here's what Emma says about whether it can be difficult to initiate new things:

"Yes, exactly, that's right. I'd like somebody to tell me what to do. It is the same at home as well, I don't know what to do and I'd rather have something to do all the time. Going to a sport event or going away or play with a friend ..."

(Emma, 1st grade)

Another aspect that affects the pupil's independence is the relationship with the resource teacher. The difficulty is, of course, to give just enough support so that the pupil has the verbal description and support he or she needs but without the resource teacher becoming an obstacle in getting in touch with other pupils. Since the pupils, at least in the beginning, need a lot of support with many things it is obviously a difficult balancing. It is easy for the relationship between pupil and resource teacher to become too tight. The educationalists talk a lot about the need for a process of liberation between pupil and resource teacher in second and third grades. One resource teacher thinks like this:

"Maybe you are there and support too much unnecessarily, it may be something that remains from earlier. When [class teacher] and [pupil] returned from their visit to Resource centre vision, they had been talking about that the pupil should be

allowed to come ask for help herself. Maybe I have not come that far yet, though we're working on it. She can do many things on her own now. I have to get used to that!"

(Resource teacher, 2nd grade)

Another teacher can see clear risks in the situation where the adult is too close to the pupil:

"In retrospect, one can imagine that we might have tied her too much to an adult. The contact may have become too tight. I think it might have scared others a bit too. As soon as something happens, she has an adult of her own to go to. Perhaps we should have been tougher on independence; I can see a tendency to irritation in the pupils as well. Like this: 'she always gets her own way' ... 'she always has [X, resource teachers] on her side' ... it's simmering beneath the surface. So far it's status to have your own teacher, but it's not always going to be like that. You notice also that she has begun to say 'No' to adults during breaks: 'Now we want to be by ourselves', she has started to object, she wants to be left alone."

(Class teacher, 3rd grade)

It can also be difficult for the pupil who gets so much of what is going on, individually explained to him by the resource teacher, to understand that collective instructions to the whole class actually apply to him or her as well.

"She helps herself in a way, when it comes to answering questions and such. She puts her hand up, she is really good at that. But otherwise it can be really hard for her ... if [X, class teacher] says, 'Now get your so and so ...', it can take a long time for her to understand that she is supposed to do something all by herself."

(Resource teacher, 2nd grade)

Overall, however, the pupils have developed a much greater independence in these three years. One of the teachers looks back and makes the following reflection:

"Sure a lot has happened in these years. She manages the indoor school altogether by herself now, with all the stairs and such. She has mobility training once a week and they have been training throughout the school so that she can find her way everywhere. I am totally impressed, she uses her cane herself all the way to the gym, it's going really well. What a development this has been."

(Resource teacher, 3rd grade)

Social skills and behaviour

The educationalists are asked about how they view the individual abilities and characteristics of the child with visual impairment, and what significance they think these have for the child's participation. The pupils' social skills, that is, their ability to understand and act in social settings in a viable way, is a factor that is being brought up.

Some pupils in the study group are considered to have completely age-appropriate, good social skills. They handle their social contacts well, and overcome obstacles associated with the visual impairment. Among these pupils are children who are totally blind, and children with vision. In these cases it seems that the degree of disability is of minor importance.

A class teacher who has a pupil with some vision notes that:

"He's a very social person who finds it easy to go and talk to others."
(Class teacher, 1st grade)

One of the resource teachers working with a blind girl expresses the following:

"... it is rather that she has better social skills than others, absolutely!"
(Resource teacher, 1st grade)

Some of the pupils are, however, described as largely adult-oriented, rather than curious about other children, at least when they are inside the classroom. This is especially evident during first grade, when the school situation is new, but the trend persists in the current cases for the whole primary school period. A resource teacher puts it this way:

"She really has not been particularly interested in anyone else at all, I would say, other than the adults."
(Resource teacher, 1st grade)

Lack of initiative in terms of social contact with other children is another factor which emerges in several cases. Some of the pupils rarely make contact with other children in the classroom. They also choose to work alone rather than in pairs or groups, if the option exists. In a class where you work with individual planning schedules for the pupils, the educationalists add deliberately sessions that require interaction with a companion. However, the pupil does not look for a friend herself but turns to one of the adults, who helps her to make contact. Yet this pupil is described as otherwise being very socially competent and in good standing in the group. This is what the pupil's class teacher in first grade says:

"Yes, the others go around much more to each other ... and show each other and say 'look what I have done,' and so on. It is not in [pupil], that she would walk around and ask somebody else like that. Instead, if she has games on her own schedule, for example, then it's more likely that she would talk to [the resource teacher] and together they would fix someone to play with. So that's something that you ... that she needs to work more with, to take initiative on her own."
(Class teacher, 1st grade)

At the end of primary school this has not changed, and the educationalists have since decided to let it pass, because the situation in general functions satisfactorily and they feel that the pupil is still very involved in the peer group. Now they interpret her behaviour in the classroom as follows:

"She loves to work, she wants to work. So that's probably why she doesn't choose so many games and stuff in her own planning, things that you do with others. She'd rather sit on her own. But at break, she always has somebody to be with."
(Class teacher, 3rd grade)

However, it is obviously important to support the pupil to get out of a passive attitude, if this is perceived as a problem. One class teacher believes that the pupil's ability to take initiative is very important for participation, and she makes the following comment when looking back:

"I'd wish she had more initiative, wanting to be with others, to be more active. She is still waiting to be invited."

(Class teacher, 3rd grade)

Some of the children also have problems in interaction with other children in different ways, and these problems are, according to the teachers, probably more due to individual factors rather than to the visual impairment. This may involve ego-centric functioning in the child and lack of understanding for other people's desires and needs.

"Because eeh, she cannot conform to a majority decision, she gets really annoyed when she doesn't get what she wants. And the others think it's very weird when she cannot comply with what they want."

(Resource teacher, 2nd grade)

Another educationalist describes her pupil in this way:

"... then, she's a very self-centered little girl, and it's not always popular. (...) It means that there is a distance between her and the other children ..."

(Resource teacher, 3rd grade)

Different behaviour is also addressed as an obstacle in the interaction with other children. In particular, one of the pupils is described as having a different behaviour and a tendency to sometimes talk in a way that other children do not understand. This is experienced by the educationalists as interfering a lot in their ambition to make the pupil involved in the group. The class teacher, for example, makes the following description from first grade:

"Well then [in the social life] he has no great ability. He doesn't have the ability to ask questions in that way or to make contact (...) He is not interested in the children in that way."

(Class teacher, 1st grade)

A resource teacher confirms this picture and expresses herself as follows:

"... this social aspect, it's hard for him"

(Resource teacher, 1st grade)

Despite the fact that you try to support the pupil in different ways individually and work with the group to increase the pupil's opportunities for participation, the situation in 3rd grade is still unsatisfactory according to the class teacher, who notes:

"... no, he is not really part of the group."

(Class teacher, 3rd grade)

At the same time the teachers reflect on how the pupil himself perceives his situation. Both the class teacher and the resource teacher comprehend that their pupil does not really seem to suffer from not having friends. He seems to like it and he also says himself in interviews that he thinks it is fun in school and that he prefers to be together with his assistant. The educationalists describe that they continue to strive for him to participate in activities with the other children, but they do not think it gives any 'spreading effects'. The class teacher rounds it up like this when she reflects upon the cooperative exercises she arranges, and for whose sake she actually does it:

"... It feels mostly like a temporary solution ... just because I want it... I want him to have friends. More like that."

(Class teacher, 3rd grade)

Specific limitations that are caused by the visual impairment

In the reasoning behind pupils' participation in the classroom, certain themes return which have to do with the specific difficulties caused by the visual impairment, and which are fundamental conditions that do not change over time. These difficulties create challenges that must be overcome in order to prevent, as little as possible, the child's opportunities for participation.

Something that all educationalists believe is directly linked to pupils' specific disability is that they need more time to perform certain tasks, and that they must have access to adapted material. These two factors are fundamental and cannot be ignored, regardless of other factors in the environment or with the pupils themselves. This is repeated in many places in the interview material.

The educationalists also address other specific difficulties that they connect with the pupils' disability. The lack of visual information is an important theme raised. The fact that the child with visual impairment is unable to obtain an overview of different situations and quickly understand a scene or event is described as being very restrictive. A concrete example that many mention here is that the child with visual impairment sometimes misinterprets events because he or she does not comprehend the intentions of others, or does not have a clear idea of the whole context. The misunderstandings can lead to storms of emotions as well as conflicts.

"... But then he collides with another boy, and it was a pure accident, but he became so angry and he cried and walked away. I had to wait a while to talk to him, and then he was so angry that [a companion] had kicked him on the leg. There was nothing deliberate, but I think that as he does not see what really happens he thinks it was on purpose."

(Class teacher, 1st grade)

A resource teacher says about another pupil:

"... he gets angry so quickly, he makes very coarse remarks to someone who accidentally pushes him and then ... he believes directly that someone is doing it on purpose ..."

(Resource teacher, 1st grade)

The lack of visual information also creates other limitations with respect to interaction in the classroom. Many of the pupils in the study group are described as being very task oriented. They rarely, if ever, make contact with other children during lessons in the classroom. The educationalists themselves have several hypotheses as to why it is like that – one factor may be that the execution of the task itself puts so high demands on the pupil's ability to concentrate, that it will be too demanding to be simultaneously involved in social interactions with others.

Another factor discussed is that because the pupils cannot see what the others are doing and how they solve different tasks, they may not realize that you can ask

and learn from each other. In this context, some educationalists also reflect upon whether the pupils miss the opportunity to be inspired by the ideas of others at work by going around and collecting impressions. One class teacher puts it this way when, for example, art is concerned:

"... they walk around and get inspiration from each other's pictures and they ask 'what are you drawing?' and 'can you draw a bird's nest?' and 'what does a bird look like?' and whatever it is. And here I can feel that she is left out because she cannot really come and look over your shoulder and see what you're doing."
(Class teacher, 1st grade)

An educationalist also highlights the fact that the pupil not being able to see exactly what the others can do, can create stress, because the pupil always thinks she is behind and the others have finished, though perhaps this is not the case at all.

"It has come up when we ask her how she experiences the others, that she does not think she has as good a check on what the others are doing and so ... so we've become better at talking more about what is happening. We cannot do it all the time because it would get tedious ... (...) But I have started thinking about to comment on what those, sitting close to her, are doing. (...) But she cannot have a check on all of them. But I usually tell her sometimes that you do not need to be in such a hurry, the others are not finished. I usually say that"
(Resource teacher, 1st grade)

The same educationalist reflects further on how it is possible to participate when the disability makes it impossible to perceive all the signals in the social interaction.

"... the difference is, you know, that she cannot be as spontaneous, and ... she cannot read what is happening and then ... it goes without saying that you cannot participate in the same way."
(Resource teacher, 1st grade)

Self perception

The children have many thoughts about themselves and their situation. We have chosen to illustrate the children's self-image, their ideas about the visual impairment and their thoughts about being different or getting to be like everyone else.

Self-image

In questions and discussions designed to highlight pupils' general perceptions of themselves and their situation in school, a more ambivalent picture appears. One theme that emerges clearly in the discussions is about the link between self-esteem, well-being and performance. The pupils in the study group that are, as the educationalists describe, cognitively well advanced, are also those who can express a positive self-image. They have words for their own skills, and can say they have friends and that they are popular. When asked if she is good at reading, one pupil answers, quite naturally:

"Yes, I think so!"
(Desirée, 1st grade)

The same pupil also says that she has many friends, and feels that she is in demand in both play and work situations, such as group work:

"... there are many who like me"
(Desirée, 1st grade)

The picture is also confirmed by her teacher, who adds that she is popular and is regarded as competent in many areas. The downside, of course, is that a sense of self-esteem that is largely built around being clever and being an overachiever, also puts pressure on you to live up to your own and other people's demands to be good enough. The above pupil is described, for example, to get very disappointed in herself when she is "simply" second-best in the class on a test - she does not think it feels particularly good.

Several pupils in the group express a relatively insecure self-image and find it hard to describe things that they are good at. One girl expresses herself as follows on the question of her reading skills:

"I don't know what I think ... I usually do not think anything about how I am ... if I am good or so ..."
(Carolina, 1st grade)

An educationalist reflects on the pupil's uncertainty in many situations, and says they must constantly reassure him that he can do things on his own:

"... he's afraid when he is presented with new tasks and things like that (...) yes, he says he does not think he can manage some things ..."
(Resource teacher, 1st grade)

A few pupils express clearly a lack of friends, at least during some period of primary school. One girl wonders what might be the cause that she falls outside the group of friends and gives a clear description of herself as the obvious 'odd one' in the group. The experience of being on the outside has become a part of her self-image. When asked why she does not have a friend to be with at break, she answers in this way:

"I actually think it's because we are ... we're 19 in class, it is an odd number... I think actually that's why, because you're playing in pairs and there will be 19 with me all the time, and then I'll be outside all the time."
(Carolina 3rd grade)

In this group of children it is further evident that there is, with several, a tendency to view themselves as someone who is "different from" the rest and thus not as clever or not worth as much. When the children are asked about various things they do, they reply repeatedly with the expression "I can ... *although* I am visually impaired." Therein lies the assumption that as visually impaired you are not expected to achieve the same things as a fully-sighted person, resulting in a need to compensate for a perceived *deficiency*.

Thoughts on the visual impairment

One aspect of the children's self-concept is about their thoughts on their own disability. During first grade there is none of the pupils that expresses direct thoughts or feelings about the visual impairment, either in our interviews, or in everyday life

at school, according to educationalists. In one of the children the educationalists, however, think that the pupil's resistance towards certain activities or situations in school can be about uncertainty associated with the visual impairment. During second and third grade you can, in step with children's general maturity, notice an increased tendency to react and think about the visual impairment, and what it means. In the material there is a tendency for these reactions to appear somewhat earlier in the children who have some vision, compared to those who are totally blind, which seems to have to do with that these children tend to compare themselves with normally sighted children more than the blind children do.

"... [he is] of course weighed down by his situation as a visually impaired person, we have talked about this in our discussions, but he probably cannot really put words to it (...) instead there are these conflicts which arise during play. And that's when, perhaps, that he becomes sad, really sad."
(Resource teacher, 2nd grade)

Another pupil shows a strong reaction to verbal abuse against children with disabilities others than her own, with whom she clearly identifies:

"She can get very sad sometimes. We have interpreted this as maybe a "nine-year crisis", but there is a difference. We have noticed a difference. There were some children in the class who were away to meet children at another school, where there were pupils who sat in wheelchairs, and when they came home they said they had met children who were 'completely cp' and so on. Then the [pupil] became very sad. (...) Then we noticed that she was very sensitive to this."
(Class teacher, 3rd grade)

Several of the children are also beginning to dress their thoughts in words and one child expresses a clear desire not to have his disability.

"... he wishes he were not blind (...). For a while there was a lot ... and then you knew he was really sad."
(Class teacher, 3rd grade)

As an educationalist you can also see the child's reactions as part of a development process, and the way towards a stable and realistic self-image.

"... he was very very angry for a while, but now he seems more at peace with himself. And perhaps you have to go through this ..."
(Resource teacher, 3rd grade)

Despite the sensitivity that is shared with several of the pupils about their own disability this group of pupils answer, with few exceptions and consistently throughout primary school, that they enjoy school and find it fun to go there. Almost all the teachers also confirm this picture when they are asked if they believe the pupils feel comfortable, and on the whole, are satisfied with their situation at school.

When we interview the children in third grade, we ask them to reflect upon their vision loss. What's bad about being visually impaired? Are there also things that are good? Things the children mention as disadvantages with having a visual impairment include a lot about concrete examples of things that you miss in the environment, such as pictures, colours, or how different things look. For example:

"... when we're out in the woods to look at ants, then it can be really hard."
(Gustav, 3rd grade)

Several of the children note that some situations are difficult to solve in a good way. In their replies you can find that there is a strategy which they sometimes use, to "withdraw" and wait, or simply choose to do something else:

"[What is difficult is] when you look at pictures and talk about them. Then I might go into that room, or I have to sit and just wait until it's finished."
(Desirée, 3rd grade)

Another girl gives a similar example:

"It's hard when she writes on the board, because I cannot see that far."
(Boel, 3rd grade)

And when asked how they resolve this, she replies:

"We cannot solve it, I do not need to care about it, I can just ignore what is happening. Read a book instead."
(Boel, 3rd grade)

Difficulties in keeping up in games and sports are also highlighted by some children, either you cannot really join in, or you do but you do not consider yourself as participating anyway. One girl says, for example, about playing football, which she usually does with a classmate as a guide:

"I can think of another thing which is hard not seeing and that is that you cannot play football. For, like everybody ... when I and [X, friend] are together, they say 'X shoot!' and 'X, do that and that!' and it's as if I do not exist. And they pass the ball to [X] but she never passes it to me. I got to shoot once ... when I played with [Y, another friend], then I could shoot a little. But otherwise, they never let me shoot."
(Desirée, 3rd grade)

Another girl describes the feeling of being hampered in her freedom of movement like this:

"Well, about running. When someone is running with me ... it feels so confined as though I must not run at the speed I want to and ..."
(Emma, 2nd grade)

When asked if she would like to run on her own, Emma responds:

"Yes, but it's not possible."
(Emma, 2nd grade)

Desiree describes the same phenomenon this way:

"... if we are to play tag, for example... because even if I try as hard as I can and run with a guide, I can run faster myself. You get tagged much easier. It's like the guide doesn't really do what I want. And then it's no fun. But if you run on your own, you can decide if you want to run all the time or if you want to wait a bit ..."
(Desirée, 3rd grade)

Several of the children also mention that it is tedious when everyone asks if they see something or what they can see, and that you can become tired and sad because of that, as if other children assume that you cannot do a certain thing because you cannot see. But they also mention things that can be positive about being visually impaired. Other sensory experiences are mentioned:

"Yes you... may ... touch more things ... you don't just get to look at it but you get to touch and feel it and all that."
(Emma, 3rd grade)

The children also describe that through their disabilities they have had the possibility to do things they would otherwise not have done such as to get close and touch objects in museums, go up on stage at a theatre or similar things. Some mention the availability of exciting tactile materials in school and to have an extra teacher as perceived advantages.

Being the only pupil in class with a visual impairment, and to meet other children with the same disability, are other issues that arise. All the pupils perceive it as positive and important to maintain contact with other children with visual impairment, in parallel with sighted friends. Several pupils say they have their best friends among children with visual impairment, and meeting each other plays an important function for them. When asked why it's good to be with friends with a visual impairment, some of them answer as follows:

"...there is no difference, they cannot do the things that I cannot do either."
(Adam, 3rd grade)

"... then you are not completely by yourself ... as visually impaired."
(Boel, 3rd grade)

"The conditions are the same for all of us, and everyone understands ... how it is."
(Emma, 3rd grade)

One of the children fantasises like this about what it would be like not to be the only pupil with a visual impairment in her current class:

"Sometimes it would be fun if we had some more visually impaired pupils in the class other than me. Someone who I was friends with, and not just a lot of sighted children ... but the whole class with visually impaired? I don't know ... there would be so many technical aids and everyone would certainly need help with their computers and it would be so much ... if everyone had a Microlog, for example, to connect them if the batteries ran out ... and if we were pretty much the same we would use the Perkins Braille at the same time ... and about 20 Perkins at the same time, what would that sound like? Just one sounds quite a lot!"
(Desirée, 3rd grade)

Being like everyone else

Sometimes pupils with visual impairment can take part in activities or carry out tasks in exactly the same way as their sighted peers. But inevitably, they must also sometimes do things differently as the task is not possible to do in exactly the same way or the situation, for some reason, requires special adaptation. The educationalists were asked to reflect on how far they think it has been possible for the pupil to do exactly the same things as the rest of the class. Many of the educationalists believe that it is usually possible for pupils to do the same thing, as long as the

material has been adapted. It is all about having long-term planning and being creative, and then everything functions, is a view that recurs. Several educationalists emphasize that all pupils have different preconditions, so you always need to consider how the task could be suitable for the whole group.

"Whether disabled or not, all have different preconditions. As an educationalist I must always have with me that everyone should enjoy the activity. I keep thinking 'what should I do to make this good?' (...) You can never say that it can't be done." (Class teacher, 1st grade)

In some of the classes a flexible approach is applied in which pupils, for example, may choose to work with different things during a single lesson. This means that everyone is at different stages and use different types of material and thus no pupil sticks out if he or she needs to use some special materials.

Some activities are of course more difficult or even impossible, to adapt, at least for the blind pupils. To draw, paint and write ordinary script are examples of such activities. Sometimes pupils, themselves, choose to go and work on something else, but some choose to participate, maybe not because the activity itself is particularly meaningful, but rather because they want to feel involved in what the other children are doing.

"She's not so keen on working with water colours and colouring and so ... she does do it... but it is more to ... not for fun I think. But rather more because she wants to do... like the others."
(Class teacher, 1st grade)

To do the same work but fewer tasks is a common way to adapt an activity for pupils with visual impairment so they can keep up. The important thing is then to think that the purpose of the task should be achieved for all pupils - for example, to learn a counting operation. The pupil's energy should then be put on understanding the exercise, rather than speeding up to manage a certain amount. One pupil comments on doing a task differently in this way:

"No, I don't mind that so much, because I do it because I'm visually impaired. The others have to, for example, do sums from a paper ... three times. And I only need to do it once."
(Adam, 3rd grade)

When asked why this is so, Adam responds:

"... So that I can do it easier, because I take much longer and then I would be far behind."
(Adam, 3rd grade)

Going away to another room to work individually is also a way of "doing something different". Here a dispute arises as to how this is perceived by the children. Some perceive it as negative and being pointed out as having to leave class, but many think the contrary that it is pleasant and often choose themselves to walk away, to work extra with something or to get some peace and quiet. Also the educationalists' views diverge - some believe it is necessary to have individual tuition to some extent for a pupil to receive the right support, which ultimately increases

the pupil's participation. Someone, however, feels that it is inconceivable to "pick out" the pupil and believes that it makes the pupil feel less involved in the class.

In the study group the pupils show different approaches to 'doing things differently', and the need to be and do exactly as the sighted peers varies between the children. A couple of teachers describe their pupils as fairly secure with themselves and their disability, and with a relaxed attitude to the fact that sometimes it is a little different for them. One of the resource teachers, for example, says like this when she looks back at the primary school period:

"... She seemed very confident with her disability. I must say, she has understood somehow that 'I cannot work with pencil and paper' and that instead she could use wikki sticks or german film or... she could do it in another way and was like 'oh well, this is what works for me'. And she has never had any problems with this, in fact ... (...) She was very confident in her approach."

(Resource teacher, 3rd grade)

For several pupils, however, it has been more or less difficult to accept that they cannot always do the same and here it is about how far the children have come to accept their visual impairment. In one case, particularly, it is possible to distinguish a clear process over time, where in first grade it was very difficult for the pupil to face the thought of having to do things differently, while in 3rd grade he takes it all more balanced.

"... He was very negative to it in first grade, but now he thinks it is obvious that he must do things in his own way and he thinks it's okay. This means that the others also think it's okay."

(Class teacher, 3rd grade)

When asked how the pupil could react when he should do a different task, the teacher responds:

"Well, he could react by flying into a rage and be really angry, and saying that he absolutely would not do it! And it took almost the entire first grade before we could see that he started to understand and think about it a little. And it was probably then that he began to accept his visual impairment."

(Class teacher, 3rd grade)

The same teacher also highlights another aspect of the desire to be like everyone else, as a positive force:

"... it is [the pupil's] will, his desire to be a part of us, not to be discriminated against. (...) That's an important factor because if he did not have the energy, and we should motivate him to be with us, to want to participate, then it would be a much harder work."

(Class teacher, 3rd grade)

In the material it shows, in different contexts, how important it is to interpret what happens in the classroom. It turns out that several of the pupils sometimes think they do things differently to other pupils though it is not so. When you have not received information about the others work, you start out simply assuming that

you do things differently. For one of the girls, for example, this became evident as follows:

"... if she was reading on the couch she thought that it was just her and if she sat at the computer, she thought it was just her that did it ... she didn't know how it was for the others. (...) She had said that to her parents at home. So then we explained to her that everyone was doing different things, there was nothing special for her."
(Resource teacher, 2nd grade)

Individual level – summarized results

Individual preconditions

- Important to expect that pupils with visual impairment need a lot of support especially at the beginning of their schooling in several areas:
 - to orientate
 - to receive verbal interpretation of visual images
 - to take the initiative
 - to perform various tasks.
- The resource teachers have a great responsibility in deciding when their support is needed or not.
- All pupils in the study group become more and more independent, but for some there remain a great need for adult support.
- The visual impairment imposes specific problems to be handled:
 - tasks take longer to perform which can cause stress for pupils
 - the pupil becomes easily disturbed in a noisy environment and often needs peace and quiet to concentrate
 - the pupil becomes easily fixated on tasks at the expense of contact and dialogue with other pupils
 - adapted material is a necessity
 - pupils miss out on a lot of information
 - lack of information can lead to misunderstandings, which may lead to unnecessary conflicts with peers.
- To compensate for the obstacles that the visual impairment causes, the pupil benefits from good cognitive and social ability.

Self-perception

- Several of the pupils have an insecure self-image.
- Some have friends, but some experience loneliness and are unable to influence this.
- Several of the children show during primary school clear reactions to crises that are likely to be linked to the disability.
- It is important for children's self-esteem and identity to sometimes meet other children who are visually impaired.
- Most children feel it is important to do the same things as their classmates.
- Some children just do not want to have individual tuition, while some think it is nice.
- All children describe that they enjoy their school and their class.

The educationalists' ideas about the role of parents

The child's home environment is naturally of great importance for how the whole situation functions. Educationalists have, in the interview material, expressed many ideas about what significance parents have generally for the work with the children's participation in school.

Significance of parents for work with inclusion

All educationalists emphasize the major importance of parents in helping make the children involved in the social life in class. It is important that the network around the child co-operate and have the same goals, this is especially important, when the child has a disability. Here is what one teacher says:

"Oh yes, but it's really important to work together in a good way around them. That you follow roughly the same line. It's not a backpack that they leave here for a couple of hours for me to take care of and for them to do something else at home later. Especially when you have a disabled child, it is important to work in the same way and strive towards the same goals, and I really feel that we do."

(Class teacher, 2nd grade)

Most of the educationalists feel that the contact with the child's parents is open and without prestige and that the cooperation is working well. One class teacher comments on the collaboration with parents like this:

"Absolutely great, it works very well. They tell you right away if there is anything, both positively and negatively. And we do the same, you know. So we have a very open climate."

(Class teacher, 2nd grade)

The educationalists stress that it is important for parents in their free time to do what they can to increase the possibility of contacts with other children, for example, by inviting classmates home after school. Some children also participate in several different leisure activities and in this way get a network of contacts outside the class.

"Well, they have a positive role, they support and encourage her. She is very active in her leisure time as well and is a member in some groups and so. Especially her mother's very active and makes sure she visits friends. She also makes sure that if it is not working well with the other girls, she brings it up with us."

(Resource teacher, 2nd grade)

The resource teacher of one of the girls thinks more about the parents' feelings about the child's disability and what impact it may have that they have come quite far in processing their own feelings:

"I think they [the parents] have processed their grief in a positive way, that's the feeling I get. Because it is so obvious in some ways and then it becomes obvious to [the pupil] too 'I sometimes do things in other ways because I cannot see, otherwise there is no difference between me and other children'. I think their natural attitude somehow makes her [the pupil] also have that attitude, and then it's not so complicated."

(Resource teacher, 2nd grade)

Has the parents' attitude also significance for the educationalists ways of organising the teaching? The majority of educationalists feel that parents have respect and confidence in their work and their way of including the child in the teaching:

"They are very realistic and they trust us fully. They always say 'You know best about that', they appreciate when we make the decisions. They really trust what

we do and they have a very realistic view of her disability, I think. There is never any problem getting them to understand why we do things in one way or another.”

(Resource teacher, 2nd grade)

But there are also examples showing that it can take some time before confidence has grown, which educationalists sometimes interpret as the parents' concern that the child's disability will mean that the child is more exposed to being left out of the peer group.

”Well, if I think back. All parents want the best for their children, all parents want that. But if you have a child who needs a little extra help, it need not be about being visually impaired, then it's easy to get a bit overprotective as a parent. It can be difficult to see your child as one in a group, and at the same time one who should be treated specially. That's what is so tricky, that you do not dare trust that others are trying to do the best for this child. That's where you might wish that parents would dare to relax a bit and have the courage to trust those who are taking care of their children to do their best and that it will be all right. But this is a process in the whole situation.”

(Resource teacher, 3rd grade)

Sometimes parents' concerns and lack of trust in the educationalists' ways of working lead to a very conflicting relationship between home and school. Parents and educationalists sometimes have different ideas about how the work around the pupil should be managed. In cases where parents have had concerns related to the teaching and how to work with the child in the group, the teachers have sometimes felt it to be a lack of confidence in their professionalism:

”It seems, I feel, as if it is knowledge which is most important to them [parents]. The studying so to speak, that [the pupil] will have computers and all the facilities ... more than the social aspects. We have talked about that we think that the social aspects are as important or even more important for it to work. But it does not seem as if the parents think it is equally important. 'She can do that later', her mother said. 'It is better to concentrate on knowledge as much as possible while she has the desire for it.' But we do not really agree about that.”

(Resource teacher, 2nd grade)

When parents and educationalists have had different views on how to work for the best around the child with visual impairment, it has often been about the desire of parents that the child, as far as possible, is "like everyone else" and participates in the same way as other pupils in school activities. This can sometimes be on a collision course with the educationalists' perception of the child's need to get extra support in areas where the child is not really working at the same level as his/her classmates.

How can parents then contribute to giving the child support and training for skills at home? Many educationalists point out that it is important that parents and school staff properly talk through their expectations of each other to avoid conflicts later. Here's what a class teacher says when she looks back over the three years:

”I think it would have needed a real discussion in the beginning about what the expectations were. So that we agree on how we should work at home and at school, just like you do in ordinary parent meetings. It is, of course, needed even more with a pupil who does not see. You need to talk about ... yes, how much should you, for example, describe things for her. Because I've found that some

common things she does not know about, like ties, for example – what’s a tie?... yes, different things like this. I think that parents have, of course, a very big responsibility for her comprehension of the world around her, explanations of words, for example. It’s important that they comment on such things that others take for granted that you should know. It creates uncertainty in her if she does not know about these relatively simple concepts.”

(Class teacher, 3rd grade)

The parents’ significance according to the educationalists – summarised results

- Parents are important if efforts for inclusion are to succeed in school.
- Parents have a responsibility to facilitate children’s participation in the group, for example, by inviting friends home after school.
- Communication between home and school is important.

Parents’ perspective

Parents have in the survey which was conducted at the end of the project, expressed their own thoughts and opinions about a number of areas that they think are important to children’s participation in school. They describe how they believe that the preparations for the child’s school start worked and they also think about the importance of organizational factors such as human resources and the physical environment in school. Further, the parents describe how they perceive the school’s way of working for an inclusive environment, and how they think about the importance of the child with visual impairment, as far as possible, doing the same things as other pupils. The importance of the reading medium for participation is also discussed. Finally, the parents describe how they think the dialogue with the educationalists in school has worked during primary school.

School start and preparations

More than half of the parents said they thought that the start of school was well prepared and worked well. One factor that these parents feel is particularly significant is good forward planning, which meant that it was possible to conduct a dialogue on what was needed in terms of staff and facilities. Some parents mentioned that one reason that the school start worked so well was that the children’s resource teachers started already in preschool class and were able to follow the children in the transition to the first year of elementary school.

For those parents who said they were unhappy with the preparations for the start of school it seems much of this problem had to do with the preschool year not functioning optimally, for example, because of a generally messy situation in the group. The general turmoil in the group led, according to the parents, to the preparations not starting on time. For one of the children the child’s technical aids with the necessary adaptations were not in place at the start of school which the parents felt as being very unsatisfactory.

In all cases but one the parents indicate that they think the school has had a positive attitude toward receiving a braille reading pupil, even if the knowledge about the reading medium in some cases have been insufficient, according to the parents. For one of the children the parents say that the school management has been in doubt about whether it was the right school placement for the child. The parents however felt that they had the support in their decision by the future class teacher and resource teacher.

Resources

The parents answer that they are broadly satisfied with the support and human resources that their children have had during the first years of school. One family respond with regard to human resources that ambitions had probably been good, but that it had suffered due to extensive sick leave among staff. Many parents stress the importance of the class teacher and resource person cooperating closely in the classroom and sometimes switching roles with each other, but that it is also important to clarify who has the primary responsibility for the pupil with visual impairment. One family experience that cooperation between the class teacher and resource teacher has not worked so well, which they believe has been detrimental to the pupil.

Also with regard to the physical environment in the classroom, most parents are generally satisfied with the work that has been carried out to adapt the school environment and enable the child to sit with friends. The main difficulties in this respect has been how to solve the problem of placing the child's assistive technology, which often requires a lot of space, in the most functional way possible without impeding contact with classmates.

Parents have also been asked how they perceive that the children's assistive technology has been used in the teaching, and roughly half of the surveyed parents answer that they think it has worked well. Some parents, though, think that their children started using computers relatively late or that the computer has been positioned in such a way that the pupil could not sit together with peers. Computer skills among the educationalists have also varied according to the parents. Two of the children who have some vision each received, during second grade, access to a distance camera. Both of these children's parents feel that this meant a big change for them. Parents describe the ability to actually see what is written on the white-board and to see their peers has led to a markedly increased interest in what goes on in the classroom for both children.

Inclusive way of working

All parents think that the staff have actively worked to try to promote the social climate in the classroom and create an inclusive environment, although some parents wish that this had been done even more. In some classes, the sighted children have been testing exercises with blindfolds so as to get a better understanding of what it means not to see. In other places, some pre-determined games have been arranged at break time in order to facilitate for the pupil with visual impairment. A couple of classes have also been in regular teacher-led discussion forums in the class where the pupils have had the opportunity of talking about relationships and conflicts that have arisen between the children. The parents perceive this as very valuable because it has also come to function as a kind of verbal interpretation for the child. Many events that happened between other pupils would otherwise have passed the pupil with visual impairment without him/her knowing. To know what happens between other children is also important to increase the feeling of being part of a group.

All parents answer that they think their children are more involved in the group's activities in the classroom than during breaks. But even if the playground and the freer activities generally are perceived as a more complex arena, some parents answer that they believe their children often have a friend to be with. But some parents respond that they believe their children rarely have a friend to be with at break, which is obviously perceived as a major concern.

To do the same – to do otherwise

All parents think it is important for their children to do, as far as possible, the same tasks as their classmates. Most parents understand that the teaching has been thought through and that their children have been involved in virtually all activities that occurred in class. Two parents say that they generally want as far as possible, that the tasks that the classmates are doing are adapted, but that the number of tasks are reduced, because it often takes more time for the child with visual impairment. Several of the parents think it is very important for the children that they can do the same tasks as others and that it negatively affects the participation if not being able to do so. One of the children defines, according to the parents, tasks as "what I can do" and "the real task", meaning what the classmates are doing. Most parents believe that it is necessary for the child to be taught separately sometimes, as long as it does not happen too often so that the child becomes excluded from the rest of the group. One of the children never works outside the classroom, which the parents describe as being in accordance with their wishes.

The significance of the reading medium

Almost all parents say they believe that the fact that the pupil has a different reading medium affects the children's opportunities for participating fully in class activities. Reasons that parents consider this is that not everything can be adapted to braille, it requires much planning and foresight of educationalists for the teaching to function for the braille reading pupil. When the class has a substitute teacher, the teaching of the braille reading pupil doesn't usually work at all, according to the parents' experience. The parent of one of the children who reads only braille believes, however, that the different reading medium does not have any relevance for the child's opportunities to participate.

The parents of the two children who started out as braille readers, but proceeded to read ordinary text, think that the fact that their children now have the same reading medium as their peers has affected the children's ability to participate positively. One of these parents responds that when the pupil read braille, much of the teaching was carried out outside the classroom, with the result that the pupil missed parts of the teaching which his fellow pupils were receiving. This parent feels that the child has also become more positive towards school work and homework since changing over to reading only normal printed text.

Most parents answer that they feel they have had sufficient knowledge of braille to help the child, but it requires that you work on your own to keep the braille up-to-date. A couple of parents think it has been difficult to motivate themselves to practice braille, as they feel that the child himself would rather have chosen to read ink print.

Communication between home and school

Half of the families say they are very satisfied with how the communication between school and home has worked. They feel that there has been openness from both sides to bring up matters that they have wondered about. One family says they have meetings once or twice per term to check that everything is going as planned with class teacher, resource teacher, special educationalist and principal. The parents feel that this has created security in the contact and a sense of transparency in the way it works for the child in school

The other families who are not as satisfied, experience for example, that school personnel have often listened to the parents, but that everything that has been agreed may not always have been rectified. In some cases, parents experience

that understanding of the child's needs has existed among teachers, but not in the school management, which has been perceived as a problem. There also appear examples that there have been difficulties in communication between home and school, especially when there have been different ideas about how work around the child should be organized.

What is most important according to the parents – summarized results

- Good forward planning before the start of school.
- Flexibility in combination with clear responsibilities within the working team.
- High level of competence of staff with regard to braille and technical aids.
- A conscious effort in order that all of the group should be involved.
- Regular and open communication between home and school.
- Positive attitude from the school management.

Concluding remarks from the educationalists

In addition to what has emerged in the interview material relating directly to factors relevant to pupils' participation, the educationalists have also summarized their experiences of how it has been to work with a braille reading pupil.

What has the pupil with visual impairment contributed with?

When educationalists at the end of the project are asked what the pupil with a visual impairment has brought to the group and to their professional roles during the three school years, many different things are highlighted. They emphasize, for example, characteristics that have to do with the pupil's personality but also that having a pupil with a disability in the class means that the other pupils learn more about being different and how to manage under different conditions. The educationalists hope that this, in the future, will lead to an increased tolerance for disabilities and otherness in general.

"Well, how has it contributed ... well, partly to be different, to dare to be different and that you can still participate on equal terms. They get to see that everyone can join in, we are not the same but it is still possible. They get a more open approach, I think, to people that are different."

(Class teacher, 3rd grade)

A couple of children have strong personalities and skills valued by other children. The class teacher relates the following:

"Yes ... it's a lot. First, she adds so much as a person. She has a high status, partly because she has so much knowledge and because she's a really good friend and she likes to tell things and yes, she's good at a lot of things. Her visual impairment, if you think about what that adds it's ... well, that you can do a lot even if you do not see. They [the children] are so very impressed, I must say, of [pupil]."

(Class teacher, 3rd grade)

Another class teacher gives the following description of her pupil:

"Yes, there is a lot that he brings. Above all, I think of his great interest in science, history, story writing and story telling. He's a very verbal pupil. Likes to read things

to the class, it has enticed other pupils to dare to read too. This is something that we look for in all classes, for the pupils to be verbal.”

(Class teacher, 3rd grade)

But what is also interesting is that several of the educationalists think that their way of teaching has been affected in an unexpected and positive way, which has been beneficial even for other pupils. Here’s what one of the teachers says:

”I organise the teaching in a completely different way now, the children are much more involved now. They do things instead of just listening to things. I mean, they learn with their whole body, it has become so clear, thinking about [the pupil], that you have to do it like this. So I almost never teach from the desk in the front now, but it’s more that they get to try things for themselves. So I think my teacher’s role has changed and I’ve become more of a facilitator than a teacher, you might say. Then of course I have probably become more focused and more thorough, you cannot do anything by force of habit any more. It has taught me to think more carefully about the other pupils as well, I think backwards.”

(Class teacher, 3rd grade)

Many educationalists think their approach has become much clearer and distinct in many ways, which has been favourable to all pupils. You use your language in a new way when giving instructions, and you also use concrete materials a lot more. Overall, efforts are made to be as clear as possible when it comes to giving pupils instructions on what to do and several teachers state that this has been beneficial to all pupils:

”Yes, spontaneously, I can think that we have become much more explicit. We have become much more distinct, always showing things to everyone, passing things around and making sure that everyone understands what they are supposed to do. It has probably been good for many of the other children.”

(Class teacher, 3rd grade)

Even other pupils have, by interpreting verbally for their visually impaired classmate, been trained to use the language in new ways. This is about using more adjectives and descriptive words when talking about something. Educationalists consider this to have had a positive impact on other pupils’ language.

”Some things that you do, I think have benefits for all children, really. It is about touching and feeling, and doing things in a more concrete way. More words too, because you verbally describe things. They [the children] get better at describing things instead of just showing them to each other. So I think the children have got better at describing ‘yes, I am holding a pen which is as long as my hand and it’s yellow.’ The language gets better, I think.”

(Class teacher, 3rd grade)

Thoughts on the concept of inclusion

At the end of the project period, we asked the educationalists about how they viewed the concept of inclusion, based on the experience they had in teaching pupils with severe visual impairment. In conclusion are a few voices on what inclusion is all about for them today:

Social issues:

"As I see it, you think more about all the pupils, how important it is to consider inclusion all the time. We all work a lot with social issues in school, because it's all very much about this. Inclusion is important and we've got more focus on it, of course, since we have a pupil with severe visual impairment in class."

(Class teacher, 3rd grade)

Equally good for everyone:

"I think it is about what we educationalists can do to make it equally good for everyone. Maybe we can do a task in another way - it will be none the worse for anyone and for the visually impaired pupil it will also be good. You have to rethink a little bit and you will also develop."

(Resource teacher, 3rd grade)

Everyone's needs shall be met:

"What I find tricky is when you misunderstand the concept and believe that everything must be done within the classroom walls in order to be included. Then I think that you are not taking the concept of inclusion seriously, because the curriculum says that all pupils should have their needs met on their own terms. If you have a disability such as Asperger syndrome, it may well be appropriate that you work in a small group with some exercises elsewhere than in the classroom. It can be just as appropriate for someone who does not see to do things elsewhere than in the classroom. It is not about pointing someone out, it's about taking into account everyone's needs when adapting the teaching."

(Resource teacher, 3rd grade)

Create conditions:

"It's about creating conditions and there the work approach is important. We must, after all, create opportunities to make inclusion come about. If you do nothing, then there will be no inclusion."

(Class teacher, 3rd grade)

No limitations:

"This experience has given me a lot, I think. The whole perspective, especially on how you learn. There are no limitations on what can be learnt and how to learn. It is possible to reach a goal in so many different ways. Foremost, it is probably the actual learning and that everyone is unique and different where I think differently today. It permeates my teaching today in an entirely different way than before."

(Resource teacher, 3rd grade)

A classroom with space for all:

"Yes ... I've learned that I can work with all kinds of pupils in my classroom!"

(Class teacher, 3rd grade)



Discussion of method

We would like to highlight some critical aspects concerning the methods used for data collection and processing in the project.

At the preliminary reviews of the data from the survey it was revealed that some questions had apparently been misinterpreted by the respondents. This meant that some of the variables included in the study were excluded from further analysis. This problem might possibly have been avoided had we performed a pilot study to test the questions' usability. This was however not done in this project as a pilot study would be difficult to perform on such a specific target group as braille reading children in elementary schools. This, combined with the sub-study's exploratory approach, meant that some of the detailed questions lacked sufficient precision with the risk that the material might not be possible to analyse.

With the above in mind, the fact remains that the material judged to be analysable, makes a fertile foundation for extracting knowledge about braille reading pupils' inclusion in the school environment. The conclusions drawn from the first sub-study's material should still be interpreted with caution and replicated in future studies.

Regarding the interpretation of interview material in the case study, a common objection is that several different interpreters, as we have been in the project group, may perceive the same statement in different ways, which would weaken the qualitative research interview's value as a scientific method. The hermeneutic interpretation method allows, however, a variety of legitimate interpretations of the same material (Kvale, 1997). We also choose to view the fact that we in the project represent different professional perspectives as an asset in this context. This has meant that when the question formulations have been refined from the basis of everyone's perspective, the different interpretations of the same interview text have not been perceived as a weakness but rather as a strength in the analysis.

Finally, we want to problematize the fact that we in the project team have an abundance of experience and knowledge within the study area, which, of course, may pose a risk that our interpretations have been influenced by the pre-understanding that we possess. That we may also have been perceived as authority figures by the respondents is, of course, also important, especially in the case study where we have met the participants face to face and conducted interviews and observations. There is a risk that the lessons we have observed have been doctored to suit our purposes and therefore not fully representative of how it usually works. Another risk is the respondents' potential wish, in the interview situation, to give the answers that they think we expected.

These risks must be weighed against the conditions that a good prior knowledge of the subject means, in order to create an atmosphere that encourages the reflection and consideration that is necessary for a scientifically satisfactory qualitative research interview (Forinder, 2000). We hope and believe that we, with awareness of these risks, have acquainted ourselves with and processed the material in a humble way. Our ambition has been to present useful conclusions from a number of individuals' subjective experiences, not to present an absolute truth.



Discussion of results

Introductory reflections

Concepts such as inclusion and the right of participation for all individuals in a society express primarily political and ideological intentions, but they can also be seen as descriptions of ongoing processes in a practical reality. The concepts are based on a view of man, based on democratic values, saying that everyone is entitled to membership, participation, and real fellowship (Andersson & Thorsson, 2007). These concepts have also, as mentioned earlier, become a guide for legislation and policy documents both in the educational and the disability areas. In many respects, there is a clear discrepancy between policy intentions and the practical reality that many children with disability experience every day.

In policy documents, it is about achieving democratic goals where each individual has equal value, with the right to be accepted based on his or her unique circumstances. These objectives are the starting point for educationalists who teach pupils who read braille in a class of otherwise fully sighted pupils. The pupils also have, by the same political agenda, the right to education and support based on their specific needs. The school is expected to meet both these objectives, and this, of course, places high demands on the staff who shall handle the task, as many factors affect how they will succeed. In many cases, an ideological dilemma is likely to occur for the school between delivering a message of solidarity and fellowship, while at the same time a decision is made that a pupil, based on his or her individual prerequisites, is in need of instruction individually or in a small group.

Of course, then it is about how best to deal with the practical dilemmas that occur daily around pupils with disabilities in school. The important thing is probably to identify and reflect on these dilemmas instead of trying to find ready-made and universal solutions - which probably do not exist. All pupils are different and the solutions you choose must be tailored to each pupil and the situation that he or she is in. The Norwegian researcher Inger Larsen highlights the importance of having a dilemma perspective in the work and being able to balance a number of conditions and goals against each other. According to Inger Larsen it is about recognizing limitations and focusing on possibilities, finding the balance between pupils' resistance to special treatment and their right to compensation, the pupils' desire for independence and desire to master with support, their desire to be the same while, at the same time, having the right to be different and to give priority to learning goals versus giving priority to social objectives (Larsen, 2004).

The dilemmas described by Larsen can be found at several levels - both organization level as group and individual level. From a systems theory approach there is also an ongoing interaction between the different environments where the child exists. It is therefore necessary to see the whole picture around the child as an inte-

ractive process in which individual parts cannot be analysed separately but should be seen as linked together. Against this background, we want to discuss the factors which in our material emerged as particularly significant for the braille reading pupils' inclusion in elementary school.

The skills in the classroom

In the classroom environment where the braille reading pupil is being taught, there are many adults who teach and provide educational support to the pupils. Usually the class teacher has the primary responsibility for the whole group and a resource person provides special support for the pupil with visual impairment. In the project we have noted that there is some confusion about the designation of the additional resource person, described as assistant, resource teacher, resource educationalist or associate teacher. To some extent this depends on the person's educational background. For example, a children's nurse can be named assistant or resource person, a youth worker be named as resource educationalist, and a teacher is often named resource teacher or associate teacher, but we also know from experience that there are teachers who are named assistant.

That the school administration choose to employ staff with different educational backgrounds can, of course, have financial reasons, but it may also be that there is widespread ignorance of the particular tasks a resource person actually should have. The results from the collected material show clearly that the person who shall provide support for the braille reading pupil in the classroom must possess a wide spectrum of knowledge, and suggest that there are special and high standards of teaching competence if the outcome is to be positive.

As the pupil will learn to read and write with a different reading medium than other pupils in the group, assistance often needs to be close to the pupil during lessons, but at the same time teaching assistance should not interfere with the pupil's social contacts with other children in class. The support person will need both didactic knowledge in the age range that the pupil is in, and knowledge of braille and the special adaptations that the pupil is equipped with. In addition, it places high demands on educationalists' attitudes and responses in the teaching situation. The American researcher Cay Holbrook (2008) argues that it is a necessity that a resource person has a teaching education, preferably with a special pedagogical training in the field of vision. This is an ambition that we do not live up to in Sweden, and perhaps we should consider whether we actually should do that?

In the case study some resource educationalists have elementary school teacher education, and several teachers express that there are great gains with educationalists in the classroom having similar educational backgrounds. It gives the opportunity of working with both teachers feeling responsible for all pupils in the group, including the braille reading pupil. Flexibility can also be created in the work, thus avoiding the roles between the teachers becoming so divided. This helps to keep the braille reading pupil from becoming overly dependent on a specific person, which many highlight as a vulnerable solution. This opinion is being stressed in a Danish study in which the support function for pupils with severe visual impairment has been examined from a pupil perspective (Norgaard, 2005). According to the interviewed pupils in the Danish study a two-teacher system reduces the risk of exclusion and segregation, and increases the pre-conditions for effective inclusion.

But in some cases the opinion is also presented that it can be difficult for both teachers to really learn in depth the methodology required to work with the braille

reading pupil. It may be how the learning material is adapted in a methodical manner, or to fully master the specific technical aids that pupils are using. At the same time the teacher must also have knowledge about other disabilities which may be represented in the group. Under certain conditions, the school may be forced to make a division of responsibilities between the teachers. The important thing, though, is that the teacher, who will be the class teacher, must have a basic knowledge of the consequences that the visual impairment can have for the learning, and must also master braille. In addition, the class teacher must have the forward planning to ensure that the pupil with visual impairment is, in a natural way, involved in activities in the classroom. For the pupil, it is clearly as important as for other pupils to feel that the class teacher is also "my" teacher.

The parents' views should also be considered in this context. Several parents in the case study express the benefits of the teachers in the class being able to switch roles, but they want, at the same time, that one of the teachers has primary responsibility for the education of their children. This desire can be a legitimate concern that no one else in the school would otherwise take full responsibility for the child's education and that the specific visual skills would eventually thin out. If the specific support is not monitored there is also a risk that the extra teaching resource that is essential for the braille reading pupil is used as a general resource for the entire class.

Resource person's role

Based on the above reasoning it can be said that the person who acts as an extra resource for the braille reading pupil has a demanding and difficult role in many ways. Berit Lagerheim's description (1988) of possible complications in disabled children's road towards independence is interesting to consider here. A child who is in many respects dependent on support often tends to be over protected according to Lagerheim. If there is always someone close to the child to support and remove barriers, how can we help the child to build its own initiative and tools to dare to be independent and take on new challenges?

Lagerheim's reasoning is primarily about emancipation from the parents, but in our case study, you can clearly see the corresponding parallel process in the relationship between the child and the resource person in school. This close relationship that has such a central place in the child's school situation is complex and involves many factors, which, in our opinion, are important to consider. Just as parents have to dare to release the child and let him/her try something new in order to build a sense of self-competence and independence, the child's resource person must do the same. While offering support and security you must at the same time be able to step aside and make room for the child's own initiative. Quite obvious in theory, maybe, but probably not always in practice. Here the dilemma in the role of resource person appears. The balance between being available but not obstructive is difficult, and there is a risk that the child who needs extra support ends up on the outskirts of the peer group, because the adult person becomes like a barrier in the contact with the other children.

Also inside the classroom, the risk is obvious that the resource person may become an obstacle in the contact between the children. This is emphasized in previous research (Webster & Roe, 1998) and it is found also in our material. Does the resource person need to sit next to the child all the time? In what situations is support really needed and when is it unnecessary? The case study reveals many

thoughts concerning this, and especially interesting are the voices who note that the adult may not always interpret the child properly. It is easy to become too intrusive despite the child's signal "I can cope by myself". One educationalist says that she is trying to step aside to a greater extent, but that *she* "is not quite there yet". This illustrates well the question about whose needs are really in control - the child's or the adult's?

Another resource teacher puts her finger on the dilemma when she says that her pupil cannot cope too well, because then she would actually be unemployed! Humourously phrased, but the remark also illustrates the difficulty in the role of the resource person. "Checking from a distance" is an expression that a teacher uses when she describes the optimal approach according to her, namely to keep a distance and be at hand when needed, but at the same time letting the pupil have the opportunity to cope as much as possible on his/her own.

Assistive technology

The significance of the assistive technology for participation and the social contact between sighted and visually impaired pupils have become evident in both the survey and the case study. In particular, the results show the importance of the computer as a tool to create opportunities for cooperation in education. With pleasure we can state that almost all pupils have access to a customized computer equipment and that it is being used daily as a technical study aid. The computer has really become the braille reading pupil's "paper and pen". But just as previous studies have also shown (Agélii & Rönnbäck, 1998; Fellenius, 1999), it becomes clear also in our material that the device is not used for cooperation with other pupils in class to the extent that one would like. One reason for this may be that pupils in lower grades need a lot of practice and time to feel safe and secure themselves with their technical aid. One pupil in the case study expresses in second grade that he thinks there is too much to keep track of when he wants to use the computer and often chooses to write on the mechanical typewriter instead. Further on the frequency of cooperation at the computer increases according to our results, in step with the computer generally being used in a different way than during the earlier school years.

Another factor of importance is the teachers' ability to support pupils in using the computer equipment. The teachers must feel comfortable with how the equipment is operated and how it should be used in the teaching. To obtain this security, training is needed and time to calmly try things out. If knowledge is lacking the anxiety and uncertainty that the teacher himself feels, is easily transmitted to the pupil. This may ultimately lead to the technical aid not being used to any great extent, and that the pupil becomes dependent on others in the computerized work. Technical problems are another factor that is put forward as an obstacle in their daily work. If there is an equipment failure and it needs repair, the pupil's primary study tool may be missing for a long time. Of course this interferes with the pupil's possibility to be active and to participate in the education. For the convenience of teachers, it is therefore important that technical assistance is well organized and that the responsibility between the municipality and county council is clearly documented (Fellenius, 1999).

Being able to take part in what happens in the classroom is indeed a prerequisite for participating in the interaction with other pupils. The distance camera came

to mean a lot to the sense of participation for two pupils with some vision in our case study. Both the pupils themselves, parents and teachers testified to the huge change the camera meant for these pupils, both regarding learning and social skills. The teachers felt that pupils became more active and attended classes in a new way. They also became more interested in the social life in the classroom. Just as the computer, the distance camera may function as an aid in different ways, and should therefore not only be seen as merely a technical study aid.

Pedagogical methods in the classroom

Teaching the whole class is still the most common way of working in school, although the proportion has declined in recent decades. Almost as common is individual work, which often is based on the pupils themselves planning their work for the week and deciding when the tasks should be carried out. Generally, only a small portion, about one tenth of the school day's work, is carried out in small groups (Granstrom, 2003). With such a distribution of working methods, difficulties could, from the results of this project, arise for pupils with severe visual impairment to participate during lessons.

Teachers in the project's case study, found it necessary to think about a completely new way of teaching and what methods and ways of working that were used. According to the teachers in this study the planning was facilitated by starting with the braille reading pupil's needs and then building up the lesson content for the whole group on this basis. The approach became more concrete and the language became clearer and more descriptive. Several teachers also reported that by allowing all the children in the class to practice verbal interpretation and to tell in a more nuanced way and describe both objects and events, development of language for many pupils in the class was strengthened. Pupils developed, according to these teachers, a richer and more descriptive language which was an unexpected positive effect for the whole group, while at the same time participation for the braille reading pupil increased, even when working with the whole class.

Moreover, there is research showing that pupils get the most benefit both socially and in terms of learning in various types of group work (Granström, 2003). Work in small groups makes it easier for a pupil with severe visual impairment to know who is included in the group and to follow what is happening. The adult has an important role in overseeing the work, so that all pupils have the opportunity to be heard. Results of our survey show that pair work is the working method, that suits the braille reading pupil best, in terms of opportunities for participation. The two pupils are then referred only to each other and chances for both participation and activity increase. There may also be, in small groups of three to four pupils, a risk that the sighted pupils take over and that the pupil with visual impairment is excluded. In pair work, it is a necessity that there is an exchange between the two children involved, and the possibility of an equal division of the work increases. In all forms of both group and pair work, it is important for the braille reading pupil to be well prepared for the tasks the group will be working with. If there is no understanding, the risk is very high that the sighted pupils will take over the task and the pupil with a visual impairment may have a minor role.

To provide the braille reading pupil with the possibility of pre-acquainting him- or herself with the task that the class is to work with, is one of the reasons that teachers in the study believe that individual work is sometimes needed. Peace and tranquillity may also be needed when the pupil is working with braille reading

skills or other operations which require a high degree of concentration. But individual teaching also demonstrates the dilemma that arises when the school, partly, must meet the very specific needs of the braille reading pupil to get quality in the learning, while, at the same time, it may risk the opportunities for social interaction in the group. The questionnaire study showed that pupils who were mainly taught in the classroom with other pupils, were judged to be more participatory, according to the teachers. Thus, this is a dilemma for teachers to manage with a sensitive touch in each individual case, so that there is not a sense of isolation for the pupil, or a stigmatizing attitude among classmates.

According to the teachers in the questionnaire study the braille reading pupil is most active in the performance of a task while working individually. In this form of work the pupil, according to the teachers, also becomes very task oriented, sometimes at the expense of exchange and dialogue with peers. It is interesting that, in some cases, this is described as a “problem”. Is it not what we expect the pupils to do in the classroom, to focus on the task assignment instead of talking to peers? But this reflects probably the changed values and approaches in today’s school, with largely pupil-driven and flexible working practices, that call for collaboration, interaction and contact regarding assignments versus what school used to be like with a traditional teacher-directed instruction, where pupils were more expected to work individually with their tasks.

The focusing on tasks, which is described in many of the braille reading pupils, is probably due to several factors. First, pupils with visual impairment cannot, in the same way as sighted pupils, enjoy and be inspired by their peers’ work. It is very difficult to have an exchange of ideas on the solution of a task when you cannot actually see how the others are working. Here the teacher has an important task in providing an overall description of what the other pupils are doing. To encourage horizontal relations, that is, child - child instead of just adult - child (Jansson, 2004), the classmates should also be encouraged to relate and describe to each other. The sense of participation and fellowship can then grow, but eliminating the difficulty totally is probably not possible. We also know it requires a lot of focus and concentration to understand and work with a tactile task. If the child is sitting in a classroom with high sound level, where activities are being carried out all around, it is perhaps necessary to “turn off” from the surroundings to be able to solve the task. To demand that the child, at the same time, should show interest to interact with peers is probably unreasonable.

Significance of the reading medium

In the case study the teachers stress that the pupil’s reading ability is an important factor for the opportunity of becoming active and participatory in classroom activities. When the educationalists in the questionnaire study assess literacy skills, a majority of the braille readers are described as poor readers compared with their classmates. This result is supported largely by the experience of Resource centre vision, based on the reading observations conducted with braille reading pupils at the annual group visits. Based on the results from the reading observations, it is rather surprising that approximately one third of the pupils in the survey were actually judged, by their teachers, to perform above, or even well above, the average reading ability in the class. Perhaps it is difficult to make an appropriate assessment of the pupil’s reading skills when it is the first time that the teacher teaches a braille reader, and also is not able to compare the reading ability with any other braille reading pupil in the class. There is a risk that the

assessment is overly optimistic and based on teachers and others around them being easily impressed by that it is at all possible to read with your fingers. If there is any truth in this hypothesis it, of course, backfires on the pupil, who may be hampered in his or her reading development due to the fact that the bar is set too low.

What can be the reason for the poor reading ability which has been observed in many braille readers? There may, of course, be several reasons. Braille is in itself a slower reading medium compared to reading of ink print. A good braille reader reads about half as fast as an ink print reader. Many children with severe visual impairment get in touch with braille much too late, and the braille reader comes across letters and text in the environment to a much lesser extent than the fully sighted child does. The educational support around the pupil is also crucial for how the child will succeed, but at school pupils are often taught by a teacher who has limited knowledge of braille and who has never before taught a pupil who uses braille. With regard to individual circumstances, it has also been observed that good cognitive ability is required, with, above all, good linguistic features, attention and memory functions, to master the reading medium braille in an optimal way (Mortensen, 2007).

Combination readers, pupils who use both braille and ink print, are also a particular risk group. The teachers in the survey assessed the majority of these as poor readers in both reading media. It is important that experts in the field of visual impaired persons' reading continuously follow up the recommendations of reading medium, evaluate and set new goals for the pupil's reading development (Vik & Fellenius, 2007).

The areas that need strengthening, so that the braille reading pupil's reading problems can be eliminated, are in many ways similar to those that are emphasized for pupils with reading and writing difficulties. In the so-called Consensus project, led by Professor Mats Myrberg (Myrberg & Lange, 2006) the researchers point to a range of characteristics for successful special education practices. Some of the factors that the group indicates are high teacher competence, early intervention in learning to read and write, continuous and structured teaching, and "one-to-one teaching". Similar to our findings is also here illustrated the dilemma of meeting the needs of individual instruction without it being at the expense of participation. In addition, the Consensus project emphasizes the importance of good cooperation with the home.

Several international studies have dealt with children's encounters with reading and writing within the family. The American researcher Denny Taylor has made a series of ethnographic studies of children and their families and was the first one to use the concept of family literacy (Taylor, 1983, 1997; Taylor & Dorsey-Gaines, 1988). These studies highlight the parents' and siblings' influence on and importance for children's encounters with written language. The closest network's reading habits and attitudes towards the written language is likely to have significant impact on children's reading and writing development. Also grandparents reading habits may play a role as carriers of reading traditions between generations (Fast, 2008). Similarly, it is reasonable to assume that parents' attitude and approach to braille is very important for the child's motivation for his reading medium. For the child it is probably of utmost importance to get the parents' confirmation that braille is a positive thing, for reading itself to be perceived as something pleasurable.

Strong support from the family is also important, given that the child is often alone in the class having a different reading medium, and it could mean a complication when the child himself discovers that other children read in another way. Therefore it is

interesting to note the parents' perception of the importance of the reading medium for the child's participation in the classroom. Most parents in the study group believe that the fact that the children have a different reading medium has a bearing on their ability to fully participate in class activities. In contrast, there emerged from the questionnaire study no significant association between the reading medium braille itself and the pupils' general participation, according to the educationalists. The actual visual impairment and the lack of information which this brings with it seemed to have a greater significance for participation, according to the educationalists.

All parents think that it is very important for the children, as far as possible, to do the same tasks as their classmates, as a different reading medium may still mean that the children feel different to their sighted classmates. Most parents felt that the teacher, instead of providing pupils with different tasks, should reduce the number of tasks, if the pupil has difficulty in keeping up.

The parents of both the children in the case study who stopped reading braille after first grade, believed that this affected the children's ability to participate positively and that the children themselves experienced school more positively. The parents of one of the blind children, where there is no alternative to braille, however, respond that they do not believe that the reading medium need have an impact on participation, but that this is mainly influenced by other factors. One may wonder whether parents' attitudes towards braille may be affected if there is an option to read ink print or not.

The aspect of time

The time aspect as a significant factor in pupils' inclusion recurs in various areas of our material and is therefore important to discuss from several perspectives. We often speak of a visual impairment as being a time disability in many ways. By this we mean that many things in life are more time consuming when you do not have vision to help. We can only consider the extremely time-consuming process that it means for a child with visual impairment to discover and understand how the world looks and functions. The child must make a puzzle of the fragments that can be understood using senses other than sight. Learning to orientate, understanding how things fit together, and reading braille – most things require more time.

When pupils with visual impairment were taught in special schools, these pupils had a tenth elementary school year, which meant that they had additional time to implement their education. Today, pupils are expected to meet the same goals as fully sighted pupils in about the same time. This, despite the fact that he or she uses a reading medium which means that the most talented pupils have a reading speed which is still about half of what good ink print readers are capable of. How does this fit together? We know that many teachers are trying to solve the equation by removing some parts of the course or letting pupils do fewer tasks than their classmates to keep up. But what about a pupil who almost always performs fewer tasks, does he or she really get the time to understand and integrate new knowledge before it is time to move on to a new section? Can we in this regard speak of equal education?

Our project also shows that several of the children often feel stressed and are concerned about not keeping up. When you do not see it is also difficult to know how far your friends have reached and this can cause a feeling of lack of control, that may cause stress in children. In our work at Resource Centre Vision we encounter many parents who are constantly worried about whether their children will achieve the goals which apply to pupils in elementary school, when everything takes so much longer and school in general is more demanding for their children. When we

talk about equal education, we need to think about how to solve this dilemma. Is it really possible to benefit from the same body of knowledge as a fully sighted pupil in the same time and, if so, at what price? Added to this is that a pupil with visual impairment, like other pupils, may have other learning difficulties which can further complicate the picture.

The time aspect is something that is highlighted in various ways by virtually all the teachers who participated in the project as an important factor to work with and around the pupil so that he/she can function optimally. Common planning time for the teachers' team is one aspect that is described as a prerequisite for full participation to be possible for pupils with visual impairment. Besides determining the content and methods of this week's lessons, teachers should also discuss roles and approaches during the different working periods. Teachers also need planning time to adapt materials for braille readers so that they will receive similar material as their classmates. A quite time-consuming task, but necessary if the pupil is to receive the same opportunities as other pupils.

Social climate – working with strengthening groups

Many factors are obviously important for how the social climate in a group develops and it is something that educationalists constantly need to work with and seek to influence in a positive direction. In a group there are, for various reasons, almost always children for whom it is difficult to be made justice, and who are therefore liable to find themselves on the edge or even outside the group. It is important that adults set the framework for how children should work together, how to be together and what behaviours are acceptable or not. Working with the social climate in the group should therefore be a natural part of school activities. To successfully create an open and tolerant atmosphere in a group also leads to comfort for the children and is a precondition for all pupils to feel that they are participating. Social climate was highlighted by many teachers in the case study as more important than the number of pupils in the class when it came to creating an inclusive class climate. It was considered especially important that the group was calm and that there were not too many other pupils who also had special educational needs. You should keep this in mind if there is a choice of location for the child with visual impairment.

Several educationalists in our study emphasized that it has been of great positive significance that there were children with disabilities in the group, and that it affected the group climate to become more tolerant and inclusive. Children learn early on that we all have different conditions and that you can cope with a lot even if you have a disability. They also learn tolerance and gain a greater understanding of what it means to be different, something they will hopefully carry with them while growing up. There are other studies that support the assumption that groups where the children have different experiences and abilities lead to a more inclusive group climate. Schools' ability to manage diverse groups is also highlighted as a significant factor (Westling Allodi, 2002).

Many of the educationalists in our case study also describe the various ways in which they worked with the social climate within the group. This could be done by regular group counselling, boy and girl groups, or using simple drama exercises. Whichever method you chose appeared to be of minor importance. Of more importance seemed to be that the work to strengthen the group was something that was included as a matter of course in the everyday work. To work in various ways

to strengthen the climate of the group also appeared to have the effect of giving children the opportunity to discover and understand new things about each other, which in turn could affect the relationship. Several educationalists also thought that, over time, they saw a maturation process in the children's group, which also led to a more inclusive climate.

But equally important was, according to the educationalists, to work "from the other direction". Trying to strengthen the visually impaired pupil's independence and ability to take initiative and to assert for himself in a socially acceptable way for the group. Several of the children also needed a lot of support and verbal interpretation to understand other children's reactions on their own behaviour and to understand the social codes in force in the interaction with the sighted children in the class.

In our material emerges further in various ways that the visual impairment in itself creates difficulties and limitations that must be managed and, where possible, overcome. One difficulty is that the lack of verbal interpretation implies that many events in the social life in class become fragmented or completely pass the child by. Everything is not possible to interpret verbally. This can lead to confusion and passivity in the child, who simply lacks the information necessary to be active and able to take initiative. Lack of information makes it difficult to participate in many activities and so it becomes necessary for the child with visual impairment to search for the information required, in different ways, to be active and participating.

Much of our everyday communication is based on visual information that is obvious to those who see but can be difficult to acquire for anyone who has a visual impairment. A study that describes the communication between sighted children and children with severe visual impairment also shows that the approach that is most functional for children who are visually impaired, to seek information by asking many questions, is often treated negatively by sighted children. From this we understand that the way to take the initiative, which is most functional for children with visual impairment, is not always so successful in contact with sighted children. However, this functioned well in contacts with other children who were visually impaired, because they had the same need to search for information by asking, to ensure that they shared the same focus (Söderqvist Dunkers, 2006). It is important to consider how we can use our knowledge of these different communication patterns to understand why difficulties seem to arise in the interaction and what strategies may be successful.

To be included – wanting to be included

Of course there are also individual characteristics that are important to consider when discussing the pupils' participation. One child is more active and independent while the other is more cautious and needs more support. In this context it is about being able to interpret what in the child's behaviour is about personal characteristics and what can be related to the visual impairment – and limitations that this implies – in order to find the most appropriate response. Also with regard to individual characteristics such as the child's social skills and general behaviour, it is important to reflect on what is what. A child with visual impairment loses the ability to imitate and therefore needs a lot of support in social development. But, of course, it is also important to consider, partly, any real difficulties in terms of interaction and communication, and, partly, the child's own interest and desire to have exchange with sighted peers.

In the case study are several successful examples of how the child with visual impairment actually is one of the group both by his or her own strength and by consciously working with exercises promoting group strength and interaction. But there are also examples of children who do not seem to be very interested in friends of the same age, but prefer contact with adults and mostly to work alone. Although the idea of participation permeates the work of team-building exercises, work on group dynamics and so on, the child is not one of the group – at least the educationalists think so. But what does the child think? Does he or she feel included? Yes, if you ask the children, most of them enjoy themselves, with some exceptions, and generally they feel that they are participating.

Here it is interesting to reflect on the concept of participation and how we interpret it. Ulf Jansson's terms, objective versus subjective participation highlights one's surroundings and the individual's respective experiences of participation. If the pupil is happy and feels involved, but the surroundings experience it in a different way – then, is the pupil not participating? One teacher in the case study is thinking about for whose sake she arranges various team-building exercises, despite that she does not feel that it has any effect – the pupil is simply not interested in the other children. This teacher states at last that she feels is probably a lot for her own sake, because she was so keen that the pupil should have more friends, but that the pupil himself actually did not express this need or any dissatisfaction with his situation.

The outset should be, however, that most of the children still want and need to have working relationships with their peers of the same age, and that, of course, one must strive to create opportunities for that. Another approach is, however, that everyone sometimes wants to do things by themselves, and this need must also be respected. A teacher in the case study said that as soon as the pupil was walking alone the teacher became worried that she was being left out, but when they asked the pupil she said she just wanted to be alone for a while. This teacher wondered if it was not so that you are often more attentive to a pupil with a disability than with other pupils, for better or worse. Another pupil can go by himself for a while without anyone making a big fuss about it. If a pupil with disability is on his own, you immediately assume that it is not because he wants to, but that the pupil is being left out.

It is interesting to note that the results from both the survey and the case study suggest that the degree of visual impairment appears to have less impact on children's status and participation in the group as well as their ability to cope with difficulties in interaction with peers. Other factors seem to be more important. In the case study no difference was shown between blind children and children with some vision in terms of ability to develop social skills, which was perhaps somewhat surprising. We had probably expected that the totally blind children would have greater difficulty in this regard. But an interesting finding was rather that two of the totally blind children in the study group, were perceived by their teachers as having both a high status in the class and social skills that were even better than in many of their sighted classmates. We interpret this to mean that the visual impairment imposes limitations in interaction, whether you are blind or have some vision, but that also many other, not least individual, factors have significance for the development of good social skills.

Something that became clear, according to the teachers in the case study, was that both social and cognitive skills of the child are of great importance to compensate for the obstacles that the visual impairment causes. Regardless of the environmental factors that have been discussed and which are, of course, significant, it is also important to consider the child's own resources. What abilities does the child have to master various difficulties, and how can we strengthen the child's potential weaknesses in the best way? We cannot stress enough the importance of that the environment - home and school – are working in the same direction to give the children both the tools and the self-esteem to be active and influence their situation.

Self-image and identity development

Regarding pupils in the case study and how they perceive themselves, some appear to have a remarkably insecure self-image. Erikson (1963) speaks in his theory of developmental psychology on the theme of knowledge as central in the early school years. It is important for development to feel competent and clever. When we questioned the pupils in the case study on the topic of their own expertise, it is clear that many of them find it difficult to talk about things they are good at. It is also obvious that, in different ways, it can be problematic to compare oneself to sighted classmates. In particular, this is evident in those pupils who have some vision, and thus compare themselves in a different way than the totally blind pupils do. For those who are totally blind, it is perhaps more natural that some things are different than for those who see. It is also clear to the surroundings that the pupil does not see anything at all, that braille is the natural reading medium and so on.

For children with some vision it will be different. You are not blind but neither are you fully sighted. Who are you then? You cope with certain things that your fully sighted classmates do but other things you cannot do. Perhaps you can read ink print letters, but still you will read braille. Why? It can be difficult for the child to understand, and in the case study, we see several examples of this. Perhaps the adults in the surroundings are sometimes not clear enough in communicating with the child about this important area. It is important that the children – based on their level of maturity – should participate in the reasoning when considering the choice of appropriate reading medium.

It is also obvious that several of the children during primary school show crisis reactions which in different ways appear to be related to the visual impairment. This type of crisis reaction of children with disability in general is also described by Lagerheim (1983). In our study group, it seems as if these reactions appear somewhat earlier in several of the children who have some vision. We connect this with the above reasoning that the children with some vision compare themselves in a different way with other children in class, and thus, earlier, discover shortcomings of their own. Our research group is indeed very small, but it is still an interesting tendency to reflect upon. The group of children in the border area between being a braille and an ink print reader are thus, in our opinion, important to pay attention to for several reasons, so that they receive adequate support, both in terms of learning and psychological respects.

To return to the developing theme of competence and the child's identity development, it is obviously extremely important that the surroundings are aware of the vulnerability that exists generally in this respect in children with disability. There is a risk that the child in different situations feels like the one who does not know and who is least able. You have to create many opportunities and chances for the

child to get to know his or her strengths and to feel skilled. At the same time it is also important to convey that sense of self is not only built around performance, which otherwise could cause self-image and self esteem to become fragile and break if you are not always the best. The message must be that the pupil is good enough as he or she is. This is also the basis for developing a stable and realistic identity – to integrate different parts of self, where both strengths and weaknesses are represented.

In the material the children further highlight the importance for them to occasionally meet other friends who are also visually impaired. Here the concern is another important building block in identity development, namely identification. Erikson (1963) describes that it is impossible to build a stable identity only from a sense of difference - you have to blend both how to be different or unique and how you are similar to others, in your own identity. But if you are the only one in school who has a disability that makes you feel different, how will that feel? Among his classmates the child with visual impairment has no one to identify with in this regard.

All of the children in the case study express, in different ways, the need to sometimes feel that you are one of several others who have the same experience of being visually impaired. Sometimes to be with others who know exactly what it is like, where you are not alone in your disability and where you can exist on equal terms, is very important for further development. We believe that this possibility of identification can make the children better prepared to meet and handle challenges in the sighted world, to dare take their place in a group and be able to experience themselves as participants based on their own prerequisites.

Home – school – participation

For parents of children with disabilities the knowledge that their children do not really have the same conditions as other children is continuously present. Consequently, it is extremely important for the parents that the child is given the best possible conditions in all respects, in order to compensate for this to some extent. Most parents probably have to live with a very special feeling that a child with disability is, in many ways, more vulnerable than other children. This may contribute to a concern, more or less constantly present, that many parents feel that their children will not get the support they need.

The parents in our study emphasize how important it has been with good forward planning for their children starting school. That the preparations in terms of premises and facilities were started in good time and that everything was in place when the children started school meant a lot to the parents' confidence in the school's ability to give the children good opportunities. This also created a sense of security in the relations between school and parents, which certainly had a positive impact on how it actually came to work during the children's first years at school. All parents also know that the system is fragile, and that it can stand or fall by certain key individuals being in place. Something that often makes it difficult for parents to really dare let go of their worries and trust that everything is working around the child.

In other studies of parents of children with disability there is also support for that long-term planning for the different stages of change in children's lives creates security and trust in the contact with the child's parents. In an interview study with parents of children with severe visual impairment, which was conducted prior

to their children starting school, it was found that the experience of good support to both children and parents during the pre-school years, good forward planning before school start and a clear division of responsibilities within the support network had a stress-reducing effect on the parents. An open two way communication between parents and the various support functions around the child also had a positive impact on how it actually came to work in practice for the child (Winberg, 2002).

In this context it is interesting to highlight that in our survey study, there was a significant association between parents' expectations regarding the child's participation and the actual participation achieved, according to the educationalists' understanding. Open communication and dialogue between home and school have been emphasized in both the survey and case study, but in the survey there was no clear correlation between the achieved participation and the quality of communication between the parents and the school staff. This is interesting and can be interpreted as though the most important thing is that expectations and opinions are expressed, and that it is not crucial that communication is quite smooth, although, of course, you should strive for mutual respect and consensus. Straight communication rather than frictionless, according to this view.

Finally, we also want to stress the important role, according to the educationalists in the case study, that parents play in helping to create opportunities for the child to join the peer group. According to the systems theory approach, it is important that different contexts in the child's life are in contact with each other and form a whole and that there is an ongoing communication between them (Broberg, Almqvist & Tjus, 2003). Both parents and educationalists who participated in the project point out how important this is to make it work well for the child. To succeed it is absolutely critical that the school and the parents really see this as a common task and contribute together to create conditions for the child to meet the difficulties that can occur and to have the opportunity to feel like "one of the group".

Parents play an important role in supporting and helping the child develop as a growing individual towards a greater degree of autonomy. But educationalists also stress how important parents are in helping children develop social relationships with other children also outside school hours. The home environment and school environment must strive for the same when it comes to strengthening and expanding the child's relationships, as this, of course, is of great importance to the child's overall experience of participation in the school environment.

Concluding reflections

While working on this project, it has become increasingly clear how complex the situation is around the braille reading pupil. When we have deepened our knowledge about the questions that have guided the project, in addition to new insights, even a lot of new questions have been raised. For inclusion to work, there are many factors at different levels that have to be considered. The sub-studies have shown that it is necessary to consider the complete picture around the child to create an optimal situation where the child is given the best opportunities to develop based on his or her conditions. As we have tried to illustrate, there are also a number of dilemmas that we encounter daily in school and which need to be balanced. To do this in the best manner requires an understanding of the child's whole situation and knowledge of the specific needs that come with having a visual impairment and being a user of a different reading medium.

Inclusion is now self-evident, and it is about equal worth and equal rights to receive schooling in the same manner as any other child, regardless of disability. But one can also wonder how to create an equal school situation for a child with visual impairment in a school that largely is based on visual preconditions. Is it even possible? The ambition is, of course, equal value across all the school areas, but it is important not to simplify the reasoning about how we are to reach this goal. Further research on these issues is needed to expand the knowledge of pupils with visual impairment and their inclusion in the school environment. We believe it is of value for future research in this field to be applied based on both quantitative and qualitative approaches. We find that such a multi-methodical approach has been a strength in this project. The quantitative tool to measure pupils' participation in the classroom that has been presented in our questionnaire study can hopefully prove useful for future studies in this area.

Although many new questions have been raised during the project, we experience that we have seen many successful examples of inclusive practices during our visits to the pupils' schools. The educationalists who participated in our case study, have, despite different conditions in terms of both organizational factors and group and individual factors, often succeeded in getting the braille-reading pupils to feel involved both in school and in social life in the classroom with sighted classmates – which is perhaps the most important task after all.

Finally, in our study, we have found a number of factors that are important to successful inclusion, but we have also highlighted some difficulties and challenges. We believe it is necessary to recognize these challenges to make it possible to find solutions. You cannot ignore the specifics of the target group of children and pupils who have a visual impairment and who use the reading medium braille. To be able to talk about inclusion, both in a subjective and objective sense, one must start from the specific and unique in each individual and in each situation.



References

Agéll, M. & Rönnbäck, A. (1998).

Nybörjarundervisning på punkt med hjälp av dator.
Solna: TRC Rapport nr. 15.

Ahlberg, A. (2001).

Lärande och delaktighet.
Studentlitteratur AB.

Andersson, B-E. (1986).

Utvecklingsekologi.
Lund: Studentlitteratur.

Andersson, B. & Thorsson, L. (2007).

Därför inkludering.
Specialpedagogiska institutet.

Blohmé, J. & Tornqvist, K. (1997).

Visual impairment in Swedish children I.
Registered prevalence data. *Acta Ophthalmologica Scandinavica*, 75, 194-198.

Blohmé, J. & Tornqvist, K. (2000).

Barnsynskaderegistret i Lund, statusrapport per 2000-09-01.
Lund.

Broberg A., Almqvist K & Tjus T. (2003).

Klinisk barnpsykologi.
Natur och Kultur.

Carlsson, B. (1996).

Kvalitativa forskningsmetoder för medicin och beteendevetenskap.
Stockholm: Liber/Almqvist & Wiksell.

DePoy, E. & Gitlin, L. N. (1999).

Forskning – en introduktion.
Lund: Studentlitteratur.

Ek, U. (2000).

Children with Visual Disorders – Cognitive development, developmental disorders and consequences for treatment and counseling. Akademisk avhandling.
Stockholm: Stockholms universitet, psykologiska institutionen.

Ek, U; Fernell, E; Jacobson & L, Gillberg, C. (1998).

Relation between blindness due to retinopathy of prematurity and autism spectrum disorders: a population-based study.
Developmental Medicine & Child Neurology 40: 297 – 301.

Emanuelsson, I., Persson, B. & Rosenqvist, J. (2001).

Forskning inom det specialpedagogiska området – En kunskapsöversikt.
Stockholm: Skolverket.

Erikson, E.H. (1963).

Childhood and Society (2nd edition).
New York: W.W. Norton & Co

Eriksson, L. (2006)

Participation and Disability – A study of participation in school for children and youth with disabilities.
Stockholm: Karolinska Institutet, Universitetservice AB.

Fast, C. (2008).

Literacy - I familj, förskola och skola.
Lund: Studentlitteratur.

Fellenius, K. (1999).

Computer based instruction for young Braille readers in mainstream education – an evaluation study.
Visual Impairment Research. Vol. 1, No. 3. 147-164.

Forinder, U. (2000).

I skuggan av cancer. Akademisk avhandling.
Stockholm: Stockholms universitet, Institutionen för socialt arbete.

Granlund, M., Almqvist, L., Eriksson, L., Luttröpp, A., & Björck-Åkesson, E. (2003).

Delaktighet: Sammanfattning av ett forskningsprojekt. (CHILD rapport, 4).
Västerås: Mälardalens Högskola och Stiftelsen ala, Stockholm.

Granström, K. (2003).

Ensamt arbete i stora klasser.
Forskning & Framsteg, 7/03, 30-33.

Göransson, K. (2008).

Man vill ju vara som alla andra. Elevers röster om delaktighet och inkludering med fokus på elever med funktionsnedsättning.
Härnösand: Specialpedagogiska skolmyndigheten.

Haug, P. (1998).

Pedagogiskt dilemma: Specialundervisningen. Skolverket nr 98:396.
Stockholm: Liber.

Holbrook, C. M. (2008).

Teaching Reading and Writing to Students with Visual Impairments: Who Is Responsible?
Journal of Visual Impairment and Blindness, 102 (4), 203-206.

Jansson, U. (1999).

Interaction and Quality in Inclusive Preschool. Social Play between Blind and sighted preschool children. In Interaction and Quality. Report of the CIDREE Collaborative Project on Early Childhood Education.
Dundee: Scottish CCC.

Janson, U. (2001).

Perspektiv, aspekt och meningshorisont i förskolebarns lekförhandlingar. I H. Montgomey & B. Qvarsell (red.) Perspektiv och förståelse. Att kunna se från olika håll, 236-53.
Stockholm: Carlssons.

Janson, U. (2004).

Delaktighet som social process – om lekande och kamratkultur i förskola. I A. Gustavsson (red.) Delaktighetens språk, s. 173-199.
Lund: Studentlitteratur.

Jansson, U. (2005).

Vad är delaktighet? En diskussion av olika innebörder.
Opublicerad artikel.

Johansson, C. (2007).

Fenomenet punktskrift i en seende omgivning. D-uppsats.
Stockholm: LHS, Institutionen för individ, omvärld och lärande.

Kvale, S. (1997).

Den kvalitativa forskningsintervjun.
Lund: Studentlitteratur.

Lagerheim, B. (1983).

'Why me?' - A depressive crisis at the age of nine in handicapped children.
In Å. Gyllenswärd & K. Laurén, (Eds.) *Psychosomatic diseases in childhood*, s. 69-77.
Sven Jerring-Symposium, March 25-26 1983.
Trelleborg: Skogs Boktryckeri.

Lagerheim, B. (1988).

Att utvecklas med handikapp.
Stockholm: Norstedts förlag AB.

Larsen, I. (2004)

Annelledshet og dilemmaer i skoleverdagen. Synspunkt nr. 2. s. 12-19.
Oslo: Huseby Kompetancecenter.

Millar, S. (1997).

Reading by Touch.
London and New York: Routledge

Mishler, J. (1986).

Research interviewing, context and narrative.
Cambridge: Harvard University.

Molin, M. (2004).

*Delaktighet inom handikappområdet – en begreppsanalys. I A. Gustavsson (Red.)
Delaktighetens språk (pp. 61-75)*
Lund: Studentlitteratur.

Mortensen, E. (2007).

Blinde børns læsning. Neuropsykologiske, perceptuelle og kognitive faktorer. Synsenter Refsnæs.
Kalundborg: Vejlø Print A/S.

Myrberg, M. & Lange, A-L. (2006)

Identifiering, diagnostic samt specialpedagogiska insatser för elever med läs- och skrivsvårigheter.
Konsensusprojekt. Härnösand: Specialpedagogiska institutet.

Nilholm, C. (2003).

Perspektiv på specialpedagogik.
Lund: Studentlitteratur.

Nolan, C.Y. & Kederis C.J. (1969).

Perceptual Factors in Braille Word Recognition. Research series, No 20.
New York: American Foundation for the Blind.

Nörgaard, H. (2005).

Støttefunktionen for blinde elever I folkeskolens almindelige klasser – en undersøgelse.
Masterafhandling i specialpedagogik.
Danmarks Pædagogiske Universitet.

Norrie, G. (1927).

Causes of blindness in children. Acta Ophthalmologica, 5, 357 – 386.

Rex, E. J., Koenig C.J. (1994).

Foundation of Braille literacy.
AFB Press: New York.

Rönnbäck, A. (2003).

Lärandemiljön i skolan för den yngre punktskriftsläsande eleven. D-uppsats.
Stockholm: LHS, Institutionen för individ, omvärld och lärande

Sacks, S. & Wolffe, K. (2006).

Teaching Social Skills to Students with Visual Impairments.
AFB Press: New York.

SFS 1985:1100.

Läroplan för grundskolan, Lpo.
Stockholm: Fritzes.

Skolöverstyrelsen (1970).

Läroplan för grundskolan, Lgr.
Stockholm: Utbildningsförlaget.

SOU 1998:66.

FUNKIS - Funktionshindrade elever i skolan.
Stockholm: Fritzes.

SOU 1999:63.

Att lära och leda – En lärarutbildning för samverkan och utveckling.
Stockholm: Fritzes.

Säljö, R. (2000).

Lärande i praktiken.
Stockholm: Prisma.

Söderberg, A. (1999).

Delaktighet i grundskolan för elever med synskada – Vilka faktorer påverkar inklusionen? D-uppsats.
Stockholm: LHS, Institutionen för specialpedagogik.

Söderqvist Dunkers, T. (2006).

Talande möten: en studie av blinda och seende barns samspel. D-uppsats.
Stockholm: Stockholms universitet, Pedagogiska institutionen.

Taylor, D. (1983).

Family literacy. Young Children Learning to Read and Write.
Portsmouth, NH: Heinemann Educational.

Taylor, D. (1997).

Many Families. Many Literacies. An International Declaration of Principles.
Portsmouth, NH: Heinemann.

Taylor, D. & Dorsey- Gaines, C. (1988).

Growing up Literate. Learning from Inner-City Families.
Portsmouth, NH: Heinemann.

Tomtebodaskolans resurscenter, TRC. (1997).

Ett hus för alla sinnen.
Solna: TRC

Teorell, J. & Svensson, T. (2007).

Att fråga och svara. Samhällsvetenskaplig metod.
Malmö: Liber.

Vik, A & Fellenius, K. (2007).

Coping strategies in reading: Multi-readers in the Norwegian general education system.
Journal of Visual Impairment and Blindness, 101(9), 545-556.

Westling Allodi, M. (2002).

A two-level analysis of classroom climate in relation to social context, groupcomposition, and organization of special support.
Learning Environment Research 5: (pp 253-274) Kluwer Academic publishers in the Netherlands.

Utbildningsdepartementet. (1998).

Läroplan för det obligatoriska skolväsendet, förskoleklassen och fritidshemmet. Lpo 94 – anpassad till att också omfatta förskoleklass och fritidshem.
Stockholm: Fritzes offentliga publikationer.

Webster, A. & Roe, J. (1998).

Children with visual impairments. Social interaction, language and learning.
New York: Routledge.

Winberg, A. (2002).

Ibland blir det för mycket kamp och för många väderkvarnar att slåss emot... D-uppsats.
Stockholm: Socialhögskolan, Institutionen för socialt arbete.

WHO (2001).

ICD11-2 International Classification of Functioning and Disability.
Geneva: Assessment, Classification and Epidemiology Group, WHO.

Digital references

<http://www.esv.se>

<http://www.socialstyrelsen.se/klassificeringochkoder/koderfunktionstillstandicf>
(2009-02-24, länken uppdaterad 2013-06-11)

<http://www.spsm.se/sv/Vi-erbjuder/Forskning-och-utveckling/European-Agency-och-internationella-kontakter/>
(2009-02-24, länken uppdaterad 2013-06-11)

<http://www.syncentralerna.se/synhab.htm>
(2009-02-24)

<http://www.un.org/disabilities/convention/conventionfull.shtml>
(2009-02-24)

<http://unicef.se/barnkonventionen>
(2009-02-24, länken uppdaterad 2013-06-11)

<http://www.vr.se/etik/publikationerochriktlinjer.4.45a6e939122880e7d8e80001820.html>
(2009-02-24, länken uppdaterad 2013-06-11)

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