Slide 1: Reading observations in Sweden

Getting In Touch With Literacy 2023

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**Objective 1:** Orientation in different reading skills that are important to braille readers.

**Objective 2:** Success factors and challenges in developing reading skills for braille reading students.

**Objective 3:** Organizing braille teaching in a mainstream school setting where the majority are print readers.

Slide 2: Sweden – A small yet large country

* Population density: Sweden ⬄ Minnesota
* Population 10.000.000
* General education since 1867
* Tax financiation of all education,   
  including school lunches

9 year => 10 year long mandatory school

Image description: Black and white map of Sweden.

Slide 3: Braille education – a brief historic glance

* A diverse group
* <10 students per school year
* Special school until 1987: Tomtebodaskolan
* Ambition of creating education for braille reading students in local schools
  + Inclusive education
  + Increased social participation
* Equal, adapted and available education in braille and other subjects
  + Support from Resource center vision
* Today – special school for MDVI students but the majority attend mainstream schools

Image description: Photo of Tomteboda School, special school until 1987 for students with blindness. A road leading up to a large red brick building with a black clock tower surrounded by large leafless trees.

Photo: Holger Ellgaard

Slide 4: Braille in Sweden

* Uncontracted Braille
* Short experience with Braille in schools  
  (de Verdier & Ek, 2014)
* 29 letter alphabet
* Braille in wide spacing in early years

Image description: The Swedish alphabet in braille. Generally the same as the English alphabet but with three more letters; å (dot 1, 6), ä (dot 3, 4, 5) and ö (dot 2, 4, 6).

Slide 5: Educating teachers

* Courses for school staff in various grades and subjects
* Focus
  + Creating an accessible learning environment
  + Teaching of Braille reading
* Mainly digitally based with some physical meetings

Image description: Decorative image showing adults sitting in a circle communicating.

Slide 6: Organizing inclusive education in a mainstream school environment

* Recommended: Dual teacher system with support and close contact with special education team  
  (Whitburn, 2014)
* Reality
  + Dual teacher system
  + Class teacher + Designated resource teacher  
    or resource person with relevant education
* Younger pupils – older students
  + Classroom teacher => Subject teachers
  + Resource teacher => Resource person or educational assistant

Image description: Photo of two doll house dolls illustrating a male sitting at a desk in front of a laptop computer with a mouse. Next to him a girl with her hands on a braille display in front of a keyboard connected to the male's laptop.

Slide 7: The purpose of reading observations

* Following the individual student’s reading development
* Trends on a group level
* Increasing knowledge
* Supporting school personnel and thereby students
  + Recommending interventions and training methods

Image description: Young girl reading braille with her eyes closed.

Slide 8: Reading Observations Today

Left column:

Letters

Numbers

Words

Brief texts in rising difficulty

Texts adapted to age and/or ability  
(Veispak et al., 2012)

Screening tools

Right column:

Examples of words:

al is sa ol sal los

sor mol sil ram vor vas

nol rov nusa mamma lusa

fel rita solar kul lika

trad groda bjorn flyger

Slide 9: Routine from grade 2

* Text reading
* Screening test
* Reading comprehension
* Reading talk in general
* Participation from teacher

Image description: Two hands touching a sheed of braille in wide spacing.

Slide 10: Elements of reading Braille

* Decoding
* Confusion; accuracy
* Reading speed
* Finger and hand use – strategies
* Line change technique;   
  backing up, diagonal movement or scissors technique
* Rubbing and regressions
* Sounding => automated reading
* Reading comprehension
* Interest and attitudes towards reading

(Millar, 1997; Swenson, 2015; Wall Emerson et al., 2009a; Rex et al., 1984)

Image description: Arrow pointing right with text: Advise to schools. For knowledge to the home.

Slide 11: The big picture  
The chart is based on students who have undergone reading observations from the academic year 2011/2012 through 2022/2023.   
The number of students the chart is based on varies among different grade levels depending on the number of participants each year.   
The chart is based on students who have followed the regular text selection for their respective grade level.

Table:

|  |  |  |
| --- | --- | --- |
| Grade | Number of students | Median wpm |
| 2 | 34 | 25 |
| 3 | 43 | 36 |
| 4 | 53 | 40 |
| 5 | 45 | 47 |
| 6 | 28 | 63 |
| 7 | 31 | 51 |
| 8 | 19 | 42 |
| 9 | 13 | 42 |

Diagram, description: Box chart showing reading speeds for grade 2-9. Bottom number up to box shows the bottom 25%, box shows 50% and box up to top number shows top 25% in each grade. Grade 2: 4-16-37-65. Grade 3: 3-21-50-90. Grade 4: 11-27-54-94. Grade 5: 10-34-69-93. Grade 6: 17-43-75-95. Grade 7: 9-30-65-98. Grade 8: 22-32-71-125. Grade 9: 8-30-71-88.

Lines in the middle of boxes show average from year 2 to 9: 25-36-40-47-63-51-42-42.

Slide 12: Common advise

**Decoding training**

* Rydaholm method (pictures on the right)
* Repeated reading
* Individual material. Training difficult words or letters that are often confused

(Foulke, 1982; Nolan & Kederis, 1969; Stanfa & Johnson, 2017; Swenson, 2015; Wolff, 2011)

**Lots of braille**

* Making text available
* Reading on Braille display

(Fellenius, 1999)

**Reading comprehension**(Rex et al., 1994)

Image descriptions of four photos in a column on right side of slide:

Photo 1 of a paper with single letters in six lines, nine columns. Letters in no particular order.

Photo 2 of paper with syllables in 7 lines, 7 columns, no particular order.

Photo 3 of paper with three letter words in five lines with 6 words on every line. The words all are consisted of consonant-vowel-consonant and the words are placed so that one letter at the time is changed while the two other letters are the same as in the last word.

Photo 4 of paper with three and four letter words on 11 lines, with five words on each line. Many of the words have a similar beginning as the last word; sl - sm - sn - fl - kl.

Slide 13: Common advise

**Reading technique**

* Using both hands, activating passive hand, working towards scissors technique,
* Start on narrow spacing, work on endurance
* Study technique on Braille display
* ”Shadow reading”

(Foulke, 1982; Kusajima 1974; Millar, 1997, best practice)

**Structured, frequent training**

(Koenig & Holbrook, 2000; Wall Emerson et.al, 2009b)

Image description: Two hands reading a sheet of braille in narrow spacing.

Slide 14: Reception at schools

* Desired support
  + Reassurance
  + Information
  + Interaction
  + Advantages and disadvantages in shift towards digital meetings
  + Effects
  + Interviews provided different information
    - Higher response rate
    - Softer values
    - Openness about challenges

Image description: Decorative image of two animated persons without facial features sitting next to each other communicating.

Slide 15: Voices from the real world (of other stuff than digits and statistics)

* Erik, 9 years old, grade level 3 (with special ed-teacher Hanna)
* Abdi, 10 years old, grade level 4 (with paraprofessional Johnny)
* Melissa, 13 years old, grade level 7 (with resource teacher Nadja)

Image description 1 (Erik): Cartoon picture of a young boy with blond, short hair, fair complexion, green eyes, a red sweater with yellow lining, brown trousers and red and white sneakers.

Image description 2 (Abdi): Cartoon picture of a young boy, standing with crossed arms and one foot raised on the heel. He has dark, short hair, dark complexion and wears a green t-shirt with a yellow star, yellow lining, blue shorts, white socks and orange and white sneakers.

Image description 3 (Melissa): Cartoon picture of a young girl with long, brown hair, light complexion and brown eyes. She is wearing a green sweater, purple, short overall pants, white kneesocks and black sneakers.

Slide 16: Erik, grade 1-3

Left column: **Grade level 1**

28 letters out of 29, all digits

Confused i/e, h/j

Automated reading

**Grade level 2 and 3**   
Reading speed 76 wpm => 90 wpm

Right index finger, sometimes left index finger  
=> Right and left index fingers active

No rubbing, no regressions

Left hand finds next line, waits for right hand  
=> Both hands diagonal movement to next line

Excellent reading comprehension

Right column: **Advise**

* Column training
* Rydaholm
* Training scissors technique
* Encourage student to take  
  on challenges in reading

**Working with Erik:**

Class teacher

Educational assistant

Special education teacher, Hanna

Image of Erik, description: Cartoon picture of a young boy with blond, short hair, fair complexion, green eyes, a red sweater with yellow lining, brown trousers and red and white sneakers.

Slide 17: What are your experiences, Hanna?

"Erik thinks it's great fun. He can get a bit more excited.   
But it's the same when I do Rydaholm with him; it's the best lesson of the day."

”Taking the advanced reading technique outside my classroom has been challenging. In the beginning, we did exercises with spaces where he had to divide his hands.   
He found it challenging to use it in other texts. But now the hand follows in a completely different way.”

What effects have you seen?

"He is definitely faster. When we test comprehension, he covers much more than before.   
Overview reading can be challenging.   
It takes longer for Erik to go back, find the keywords, and then return to where he was.   
But he's progressing just like the others."

Image of Erik, description: Cartoon picture of a young boy with blond, short hair, fair complexion, green eyes, a red sweater with yellow lining, brown trousers and red and white sneakers.

Slide 18: What is it like teaching a a way of reading and writing that you don’t fully master?

”Well, I mean Braille; I can't read a single letter.

But it has gone very well anyway because the teacher and educational assistant have learned it.

Erik is not overly fond of reading books, but he does it. During silent reading, he reads his book. But at home, he probably listens more.”

Hanna, Special education teacher for Erik

Image of Erik, description: Cartoon picture of a young boy with blond, short hair, fair complexion, green eyes, a red sweater with yellow lining, brown trousers and red and white sneakers.

Slide 19: Erik, grade level 4, nov 2023

* Text reading   
  Reading speed 90 words per minute
* Right index finger, more fingers active  
  Left hand keeping track of lines
* Some regressions
* Both hands active on Braille display

Working with Erik:

Class teacher, employed in August.

Paraprofessional, 21 years old, just replaced

No previous experience with Braille.

Image of Erik, description: Cartoon picture of a young boy with blond, short hair, fair complexion, green eyes, a red sweater with yellow lining, brown trousers and red and white sneakers.

Slide 20: Abdi

Image description: Cartoon picture of a young boy, standing with crossed arms and one foot raised on the heel. He has dark, short hair, dark complexion and wears a green t-shirt with a yellow star, yellow lining, blue shorts, white socks and orange and white sneakers.

Slide 21: Abdi – Reading observation grade 1 and 4

Left column: **Grade 1**

29 letters out of 29, all digits

Lots of rubbing, many regressions

Sounded out words

3/5 texts

Text 3:

Emil and Mia plays.

It is spring and the sun is shining.

Mia said let us play a game.

Emil said we can be in the grass. Then we can take out a blanket. We can play with our cars and boats on the blanket.

Right column: **Grade 4**

Reading speed 30 wpm

Right hand only

Slanting down to next line

No rubbing

Many regressions

Sounds out new words

Struggles with reading comprehension (2/5)

Recommendations:

* Encourage Abdi to ask about unfamiliar words.
* Repeated reading.
* Practice column exercises to engage the left hand.
* Encourage to activate his left hand during line breaks.
* Consider using the Rydaholm method.

Image of Abdi, description: Cartoon picture of a young boy, standing with crossed arms and one foot raised on the heel. He has dark, short hair, dark complexion and wears a green t-shirt with a yellow star, yellow lining, blue shorts, white socks and orange and white sneakers.

Slide 22: How do you feel about this kind of support?

"I think it's good to see if we're doing things right or if we need to rethink. I don’t think all your texts are great though. There are so many abstract words, like gnomes. He’s from another country, it becomes tricky.“

Which recommendations have you used?

"We do repeat reading every week. Fluency increases. Both conceptual understanding and reading comprehension have improved. He reads really fast, even new text. I'm not worried.“

How has Abdi experienced the training?

"Abdi sighs and puffs. He doesn't like reading with his left hand. Repeat reading becomes easier and easier though. He's not that fast, but there are many who are worse than him."

Johnny, resource person for Abdi

Image of Abdi, description: Cartoon picture of a young boy, standing with crossed arms and one foot raised on the heel. He has dark, short hair, dark complexion and wears a green t-shirt with a yellow star, yellow lining, blue shorts, white socks and orange and white sneakers.

Slide 23: Melissa – looking back

Left column: Line diagram with the headline "Reading speed". The diagram shows a curve going from 0 in Grade 1, up to 28 in grade 4 autumn, up to 38 in grade 4 spring, 51 in grade 6 and down to 48 in grade 7.

Right column: Implemented recommendations

Daily training

The method of Rydaholm

Text talks

Reading homework

Braille in all subjects

Repeated reading

Column exercises

Practise of high frequency words

Image of Melissa, description: Cartoon picture of a young girl with long, brown hair, light complexion and brown eyes. She is wearing a green sweater, purple, short overall pants, white kneesocks and black sneakers.

Slide 24: How have you used the recommendations and which results have you seen?

"If Melissa doesn't understand something, she turns to us. This has resulted in an increase in Melissa's vocabulary, and she now reads long, new words more easily. The training has also resulted in Melissa reading very accurately; she knows to pause at commas and make a brief pause at periods. Melissa also feels that she has developed in all these aspects. The goal is not only for Melissa to read faster but also to understand what she reads. We, therefore, actively work on retelling, which yields good results.”

How do you think that Melissa feels about the training?

"We don't have specific training sessions; instead, training can be found in every subject, practically during every lesson. Melissa has not experienced the training as 'tough' because it is always present. Instead, she sees it as part of everyday work. Melissa increasingly notices that she needs less time to read different types of texts."

Image of Melissa, description: Cartoon picture of a young girl with long, brown hair, light complexion and brown eyes. She is wearing a green sweater, purple, short overall pants, white kneesocks and black sneakers.

Slide 25: Transition to grade 7

* Recommendations for a smooth transition
* Nadja came along
* In grade 7, reading speed stable
* Continuing on the same path, add:
  + Repeated reading
  + Practice high-frequency words in Swedish and English
  + Column exercises to activate left hand more
* School used almost all suggestions

Image of Melissa, description: Cartoon picture of a young girl with long, brown hair, light complexion and brown eyes. She is wearing a green sweater, purple, short overall pants, white kneesocks and black sneakers.

Slide 26: Challenges for these students

* Erik: Keeping up reading speed and tecnique over transitions, making room for individual training
* Abdi: Reading comprehension, raising expectations
* Melissa: Balancing expectations and goals, increasing independence

Image 1 of Erik, description: Cartoon picture of a young boy with blond, short hair, fair complexion, green eyes, a red sweater with yellow lining, brown trousers and red and white sneakers.

Image 2 of Abdi, description: Cartoon picture of a young boy, standing with crossed arms and one foot raised on the heel. He has dark, short hair, dark complexion and wears a green t-shirt with a yellow star, yellow lining, blue shorts, white socks and orange and white sneakers.

Image 3 of Melissa, description 3: Cartoon picture of a young girl with long, brown hair, light complexion and brown eyes. She is wearing a green sweater, purple, short overall pants, white kneesocks and black sneakers.

Slide 27: Success factors

* Early, focused training of decoding and technique (de Verdier & Ek, 2014)
* Positive collaboration and good continuity in work teams
* Education, knowledge and/or interest and ambition in teaching teams (Emerson et al., 2009b)
* Student’s own prerequisites (de Verdier & Ek, 2014)

Slide 28: Challenges

* Silence from schools
* Time and planning
* Lack of experience and knowledge in Braille
* Individual training throughout shool
* Transitions between teaching teams and schools
* Difference and balance in expectations
* Late onset blindness

What are your experiences? I would appreciate input.

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