A regional center for physically disabled children in Gothenburg, Sweden, called Bracke Ostergard, teaches non-speaking pupils to communicate with Bliss symbols. School records were examined for the 38 non-speaking pupils, mostly cerebral palsied, who had been trained to use Bliss symbols. Results showed that, of the 32 cerebral palsied children, 25 use Bliss symbols. The five children with acquired or progressive brain damage had a spoken language and subsequently used traditional orthography in place of Bliss symbols. Among deaf children, sign language is most commonly used, but it was felt that deaf pupils had a more flexible communication system if they learned Bliss symbols as well as sign language. In the 1970s, children started with Bliss training at elementary school, but in the 1980s children started Bliss training in preschool. Eighteen of the pupils know more than 200 symbols. Pupils with severe athetoid movements could not indicate their symbols clearly and thus had poor communicative ability. (JDD)
A follow-up study of non-speaking pupils who communicate with Bliss Symbols at Bräcke Östergård, Gothenburg, Sweden.

Karin Guttman

Bräcke Östergård, Göteborg

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Karin Guttman
Bräcke Östergård
Box 21062
400 71 Göteborg
Sweden
Telefon. 031-50 25 00
Fax: 031-53 69 85

ABSTRACT:

Background and purpose.
I work as a teacher at a regional centre for physically disabled children, Bräcke Östergård in Gothenburg, Sweden. We have taught non-speaking pupils to communicate with Bliss symbols since 1977, but until last year we didn't have documented how many children there were, the reasons they were unable to speak or how they communicated now.

During the last year I defined the non-speaking pupils and gathered information from their files.
I found 38 pupils, mostly cerebral palsied, some with other forms of brain damage. 11 of the pupils were mildly mentally handicapped, the others were average. Most of the pupils, 25, used Bliss symbols.
Problems.
From the files I can draw some conclusions about this group of pupils, for instance how they communicated when they still attended our school. Many of them have now left our school and I would like to know about their communication today. Did they learn how to communicate in a useful way at our school, did they learn for life?

Method
I have defined the group and studied their files, I know the children's medical, intellectual and school background and their systems of communication.

I intend to send a questionnaire to all the 38 children who have learnt alternative and augmentative communication at our school. Then I will conduct interviews with some of them, videotape and analyse these interviews by the method used in Canada by Janice Light.

Conclusions.
in the study that I conducted about these children I found that -

*Pupils with severe athetoid movements did not indicate their symbols clearly. Because of this, their ability to communicate was very poor. Teaching symbols is not enough, more time needs to go into better indication of symbols.

*Pupils with acquired or progressive brain damage, who had been speaking before, did not accept Bliss symbols. They continued with traditional orthography although it took them more time and effort.

*The deaf pupils had a more flexible communication system if they learnt sign language as well as Bliss symbols. They were able to communicate with most people in their surroundings.
A follow-up study of non-speaking children at Bråcke Östergård in Gothenburg, Sweden.

Karin Guttman, Special Teacher at Bråcke Östergård, Gothenburg, doctoral student at Gothenburg University Department of Education.

Background.
I want to tell you about our school for motor impaired children and my work with our nonspeaking pupils.
Since 1976 I have worked as a remedial teacher at Bråcke Östergård in Gothenburg in Sweden. I have been in a doctoral program in education since 1987.

When I started in 1976 at Bracke Östergård I got a class with three non-speaking seven year old pupils and one pupil of the same age who was able to talk (Children start school at seven years of age in Sweden.) I remember that I worked tremendously hard to be able to communicate with those children and to try to teach them. Every day when I came home I went to bed to sleep for a while before I started to make dinner for my family as I was exhausted. By the end of our first year together I was invited to a course on Blissymbols with Shirley McNaughton from Canada. That course and the Blissymbols have been very important for me ever since that day.

The first thing I did when I came back from that course was to teach my pupils to communicate with Blissymbols. We tried to communicate with Blissymbols everywhere and all time. I wanted my pupils to understand that when they communicated with their Blissymbols, they would have the opportunity to make things happen for themselves. When Anette, one of the
pupils, told me she was tired, my assistant and I laid her down to rest for a while. When she told me that she didn't want the brown shoes that motor impaired children often get, and that she wanted bright colours and smart models, I told her mother and she bought her a pair of shoes that Anette loved.

I had these children as my pupils for seven years and I became very involved in their thoughts and their lives. Sometimes when I spoke about my children, people didn't know if it was my biological children or my school children that I was speaking about. Today my former pupils are grown-up people - 21 years old. They communicate very well with their Blissymbols and I hope that they will all benefit from the evolution that is taking part in nonspeaking people's communication by the small computers with synthetic speech, which are not as common in Sweden as they are in Canada and the US.

I am supposed to tell you about my research with nonspeaking children at Bracke Ostergård, not just about my own pupils. But I think you get a better background if I first tell you about them, because without my former pupils I wouldn't have done any research at all. They are the ones that made me interested in alternative and augmentative communication.

**Purpose**

At Bracke Ostergård we have taught non-speaking pupils to communicate with Bliss symbols since 1977, but until last year we didn't have documented how many there were, why they were unable to speak or how they communicated nowadays. I started to conduct some research on them, define the group, find their medical and intellectual background and try to see if they communicate well or not. I have written it in Swedish a year ago, and now I have this somewhat shorter English version as well.
**School history about the pupils.**

In the early seventies there used to be a hundred pupils at our school for motor impaired children. Most of these pupils were not severely disabled and today most of these children attend their local schools. There were only one or two pupils who couldn’t speak. In the middle seventies when I started as a teacher at Bråcke Östergård there were suddenly 11 nonspeaking children in the school. My class was the first one with several nonspeaking children in the same class.

In 1980 there were about 50 pupils with 20 nonspeaking, 1985 we had 40 pupils with 20 nonspeaking and in 1989, 33 pupils with 20 nonspeaking.

In our lower classes there have been almost no speaking children during the last five years, and all the children have very severe motor impairments.

**Graph 1: Number of pupils.**
School history about alternative communication.

As I told you we started to teach Blissymbols in 1977 when we had our first course here. Since then there have been several courses every year, and Blissymbols are rather common in Sweden today. We often use Pictogram for our mentally handicapped children and Blissymbols for the other children.

When we had used Blissymbols for ten years at Bräcke Östergård I started to investigate how many pupils we have had, and gather information about them. I first had a rather tough target, to define which children during this period were nonspeaking. There were no extra marks by the nonspeaking children's names on the classlists. The only way of identifying all of these children was from personal knowledge. As I know most of the children I studied the classlists for a period between 1977/78 to 1987/88. I then asked the teachers who were most familiar with them for extra clarification, and I finally got names of 38 pupils who have been taught alternative communication during their school time at Bräcke Östergård.
Medical Background.

After that I went through the children's files and studied them. I found that among the 38 nonspeaking children there was 32 pupils with cerebral palsy, 5 pupils born in the sixties had acquired or progressive brain damage and 1 child has dysautonomi, i.e., she is unable to hear and feel anything.

Graph 2: Medical diagnosis.

Which methods of alternative communication does the children use?

When it comes to which method of alternative communication the children use, I found out that their medical background was important. The five children with acquired or progressive brain damage never wanted to communicate with Blissymbols. As they have had a spoken language, they used traditional orthography in spite of the bigger effort it took. One of the
cerebral palsied pupils who was born 1961 got Blissymbols too late in life and didn't use them.

As for the 32 cerebral palsied children, 25 of them use Blissymbols, 3 of the younger mildly mentally handicapped children used Pictogram and sign-language and one pupil used traditional orthography as I mentioned above. Among our deaf children sign-language has been common since the middle seventies. We had a teacher with sign-language start at that time. I think that the deaf children have a much better communication system when they are able to communicate both with signs and Blissymbols. 3 pupils use sign-language. There is one deaf pupil (see "other" in graph 3) who attended our school before we had a signing teacher. This pupil was taught to lipread, but given no alternative means of expression. I personally think that she would have had much better communication if she had learned signs when she was in our school.

Graph 3 : Method of communication

![Graph showing communication methods]
When do the children start to learn alternative communication?

In the seventies our children started with Bliss training at elementary school and some of them in middle school. During their preschool time they often didn't have any good communication outside the family. But from the beginning of the eighties, children started their Bliss training in preschool and now are able to communicate with people outside the family when they are very young.

Graph 4: Start of Bliss education.

![Graph showing the start of Bliss education with bars indicating the number of pupils by year of birth and education level.]
How many symbols do the children know?

In Sweden we often use 400-symbol standard charts. When the pupils know more than 200 symbols many of them can communicate very well with other people. There are 18 pupils who know more than 200 symbols - many of them use our 400 standard chart.

There are 9 pupils who use between 100 and 200 symbols. Sometimes these children have individual charts, often they use charts that we are able to build up like the 400 charts.

5 of the youngest pupils know fewer than 100 symbols, some of them as few as 10 symbols.

Graph 5: Number of Blissymbols.
Is the communication of the children functional or not?

I know that the number of symbols that a pupil knows is very often used as a measurement of the pupils ability to communicate. I have searched for some other measurement, but I haven't found any in the literature that I have read. I know pupils who know lots of symbols, but don't use them very well. I also know pupils who know only a few symbols but are able to communicate very well. I tried to find some other measurement of the children's ability to communicate and I decided on the following. I informally asked teachers, assistants and staff at the boarding house if they could tell me the pupils who were not able to tell them a secret, i.e. something they hadn't a shared experience of. The deaf pupil who can't express herself, the pupils who are unable to indicate clearly and some of the younger pupils who know very few symbols were unable to do this. This information is detailed in graph 6.

Graph 6: Communication skills.

![Graph showing communication skills](image)
Intellectual status.

Of course I was interested in the pupils intellectual status. I found from the tests that our psychologist conducted that we had 11 pupils who were mildly mentally handicapped, the rest attended the normal school although some of them had severe motor impairment and may function on a lower level than these tests indicate. It is very hard to test non-speaking children, sometimes I wonder if the psychologist hopes that the children are more clever then they actually are.

In Sweden there is a difference in the level of care dependent on whether your child is mentally handicapped or not. Some of the children who are borderline mentally handicapped are registered as being mentally handicapped as that makes it easier for the parents to get help to look after the child to allow them to spend time with their other children or do whatever else they want to do without their disabled child.

Graph 7: Average/Mentally retarded

[Graph showing the number of pupils born in different years, with bars for average and mentally retarded.]
Where are the children now?

Ten of the children who attended our school during this ten year period have now left school. 8 children are in different special schools for mentally handicapped children, sometimes because they can live closer to their families. 20 children were still in our school last year when I made this investigation.

Graph 8: School situation

- In school
- MR 7-16
- MR 17+
- Left school

Year of birth

Number of pupils
Discussion and suggestions for further research.

The children that I have followed are all severely disabled children. Of course I can not generalize my findings about these pupils to all non-speaking pupils. I do think that we have to make several investigations like this in different countries so that we will be able to share our different experiences with each other. In the literature that I have studied there is very little done of this kind. Either people tell us about one pupil for a long time (Kates, Mc Naughton 1975) or they tell us about many pupils for a short time. Sometimes the pupils that they investigate are not at all non-speaking pupils (Luftig, Bersani 1985, 1986).

I have thought very much of the way we teach children to communicate with Blissymbols. When I had a class with many non-speaking children we used Blissymbols all the time. I know that when my children became older many people were impressed by the way they communicated. The children were able to try other symbols if the first ones weren't understood. They knew how to handle people who thought they were deaf or silly. We made very many tours in the community, in information centres and at exhibitions, so that they could get used to talking to strangers. The amount of time Blissymbols are used makes a great difference in the ability to communicate, but I have never seen that pointed out in the literature. I would like to see other people's experience of this.

If a child is the only non-speaking child in the regular class, there can't be as much time for using Blissymbols. Often if these children have peers who want to communicate with them, they are good communicators in class, but sometimes not able to do so outside school. The teachers or assistants should be aware of this and sometimes let the child speak to
strangers outside school. Why not on a day when the other children do something that the motor impaired child can't physically do eg skating?

Conclusions
As for the pupils in our school I found out that the pupils with acquired or progressive brain damage found Blissymbols too limiting. They remembered their own speech and they continued to communicate orthographically in spite of the effort and time it took them.
I also found that the deaf or severely hearing impaired children got much more varied communication when they could use both sign language and Blissymbols.
Finally I found that children with severe atetoid movements find it very hard to communicate despite the fact that they may know very many symbols, because whenever they get excited their movements makes it impossible to indicate the symbols.

Reference.
McNaughton S (1985) Communicating with Blissymbols, Blissymbols Institute, Toronto