

## INCLUSION OR EXCLUSION

# Children with hearing loss, are they really integrated in the classroom?

By Anna K Lejon, September 2013

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### Abstract:

The last decade a trend is showing in Scandinavia and the rest of Europe, more and more children with hearing loss are integrated in mainstream school. In Sweden around 80-90 % of the children with hearing loss are integrated in mainstream schools. According to a survey done by Barnplantorna, a society for children with cochlea implants, 70% of children are using assistive listening devices such as FM-system and DM-system. (Gyllenram 2012)

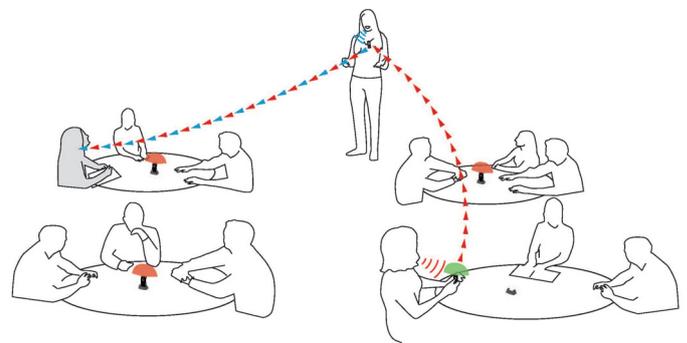
But can we be sure that these children are really integrated and a part of the classroom discussion?

## Mainstream school or special school

Twenty years ago the majority of children with hearing loss were going to school in a special school or a class in a mainstream school that was specialist in teaching children with special needs. When cochlear implants became more common, the map of school choices was changed dramatically. The children with cochlear implants more and more often joined mainstreamed schools with their normal hearing peers close to their homes. Today 80-90% of children with hearing loss attend mainstream schools; these figures are also applicable to the rest of Europe and the US.

## Technical solutions

The general agreement in the audiological field is that children need more than a hearing aid/cochlear implant or bone anchored hearing aid to be able to follow the instructions in a classroom. 70% of children using cochlear implant in Sweden are using FM or DM-system (Gyllenram 2012). The figures for children with hearing aids are harder to find. The FM/DM technology should give the child with hearing loss the possibility to hear both the teachers and their class-mates. A good example of a technical solution that makes it possible to hear everyone in the classroom is a system with a push-to-talk-function, such as Microphone DM10 and Microphone DM30.



Using Comfort Digisystem with a push-to-talk function improves the audibility of discussion for students with hearing loss.

In this case the teacher's microphone is always on, when a student is answering the question; the speech is mixed with the input from the teacher's microphone and transmitted via the teacher's microphone to the receiver worn by the student with hearing loss.

A technical solution for better hearing is only one part of a good educational environment for these children. Knowledge acquisition is also enhanced with a good acoustic environment, sufficient light in the classroom and a general understanding for the children's' situation etc.

## Active learning and participation

Schools today are more focused on active participation in the classroom than ever before. With active participation the children are encouraged to take a more active role in their learning, being a part of discussions, asking questions and listening to both the teachers and their fellow classmates. (Ma. Socorro C. Bacay 2004)

## Cone of experience

The Cone was originally developed by Edgar Dale in 1946 and was intended as a way to describe various learning experiences. The basis for this Cone of experience is that the more active you are in the learning, the more you learn. Using a traditional FM-system with the possibility to transmit only the teacher's voice, the learning will be more of a passive learning, while if using a push-to-talk system the learning will become more active and the student can hear both what the teacher and the rest of the class is saying.



Source: Edgar Dale 1969

## Study; how is a lecture divided between discussion and teacher, Method

The study was done in cooperation with Osbecksgymnasiet, Laholm. The students' ages ranged from 16-17 years.

Six classes were attended, two in English, two in Mathematic, one in Social science and one in Swedish.

In the classes the time was measured and classified according to six categories;

- Discussion
- Work one by one
- Lecture by the teacher
- Lecture by other student
- Work two and two
- Discussion in small groups

Before the lesson the teacher was asked;

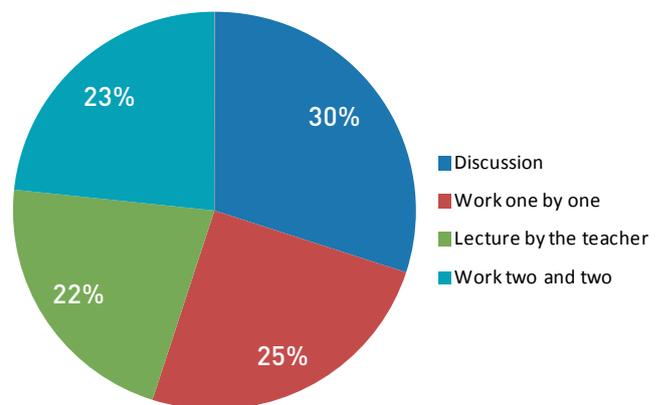
- Do you as the teacher repeat the students' answers?
- Are you using open questions in the classroom?
- Are you actively trying to get a discussion going in the classroom?
- How do you encourage the students to join in?

After the lesson the students answered a questionnaire about the role of discussions in the classroom and the importance of those discussions.

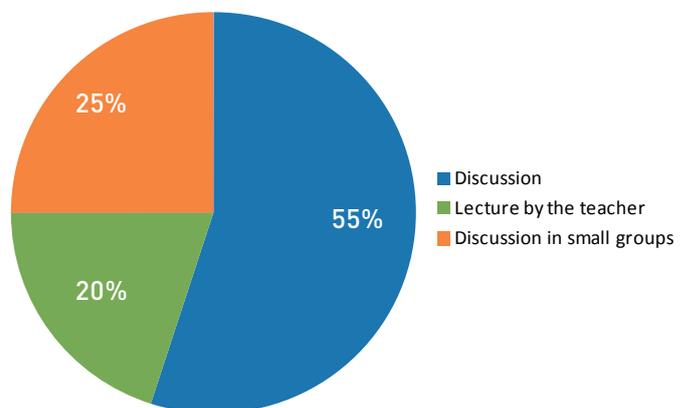
## Result

The six classes were categorized one by one as following:

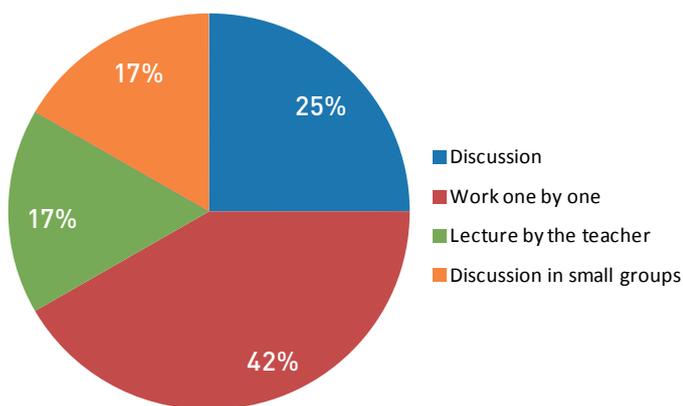
English class, average from two classes:



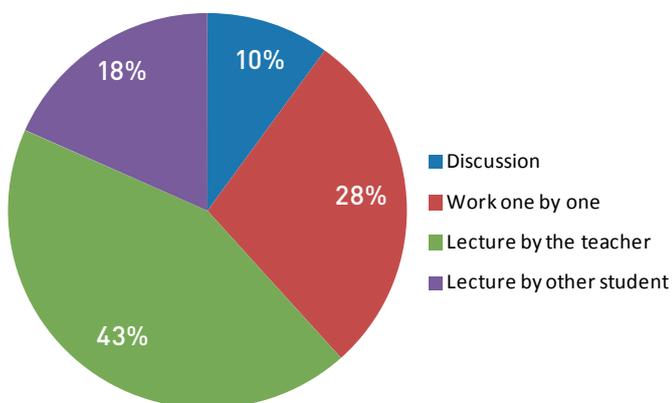
Swedish class:



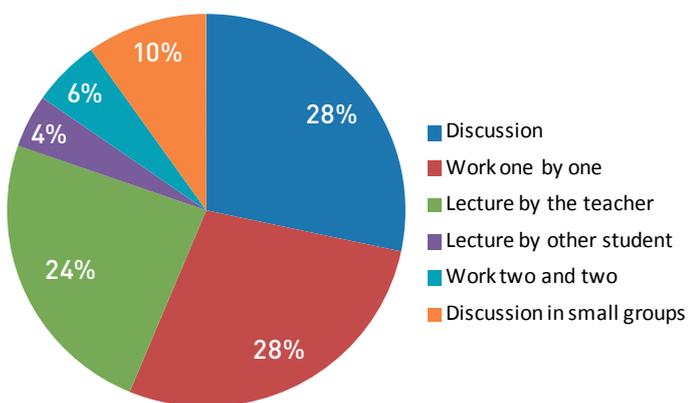
Social science class:



Mathematic class, average from two classes:



Average from the six classes:



Answers from the teacher:

Do you as the teacher repeat the students' answers?

- Yes, I always do it! But I sometimes feel like a parrot doing that.
- I repeat the correct answers, otherwise no.
- I use repeating the answers as a tool for learning.

Are you using open questions in the classroom?

- Yes I do.
- I try really hard to do it.
- I teach mathematics, it is not really a subject for open questions.

Are you actively trying to get a discussion going in the classroom?/How do you encourage the students to join in?

- I sometimes force them.
- I have my tricks to get them to join in.
- I am very clear that to get good grades they have to join in, and that helps, sometime it does not work.

## Discussion

After looking at how the time was split between discussion, lecture by the teacher, and other activities, it is easy to see that being a child with a hearing loss with a one-way communication system, a system that transmits only the teacher's voice, will lose a lot of information during an average day in the classroom. In a mathematics class the discussions were not as prominent, a child with a hearing loss wearing a one way communication system would lose around 10% of the lesson, compared with language classes where the loss could be anywhere from 30% in an English class up to 55% in a Swedish class.

The teachers' answers were in many cases true, but in some instances the teachers answered more like they wanted it to be, and not what actually occurs in the classroom environment. During the classes the teachers only twice repeated exactly what the students' answers were; and in many cases they did a quick overview or shortening of the answer.

Many of the questions were open questions and the students were engaged in the discussion or answers that were given from other students.

The teachers were also very good at getting the discussion going in the classroom.

## Conclusion

Learning in school is often based on discussions and it is essential that children with hearing loss can join in with these discussions to have the same access to knowledge and learning as their normal hearing classmates.

The results that were found in this study are snapshots from a day in a school in Sweden; the result could be different if different classes were attended. The interesting part of this study is to point out the need for a technical solution that gives the child with a hearing loss access to both the teacher's and the classmates' speech to have the same starting point as the rest of their classmates. The classroom instructors did not have any hearing impaired students at this time, but statistically there could have been a student with a hearing loss in their room. Interesting is that the teachers were convinced that they repeated the answers their students gave, but in fact it only happened twice during the six classes.

The teachers were very engaged in their way of teaching and making sure that everyone was included and active in the classroom.

## References

Gyllenram/Barnplantorna: ENKÄTSTUDIE, Barn och ungdomar med cochleaimplantat i skolan. 2012

Ma. Socorro C. Bacay/Class Discussions: Its Benefits, 2004