Deaf and hard-of-hearing people find it more difficult to read hypertext

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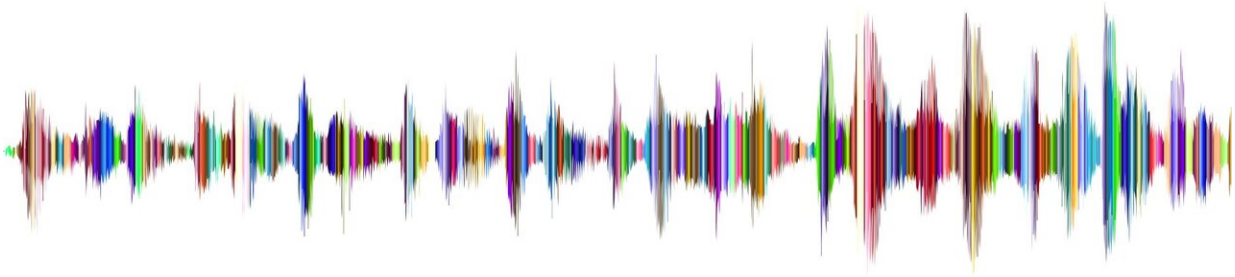

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Young people who are deaf or hard of hearing have much more difficulties with reading than average. It is estimated that about 70% of this group are only semi-literate by adulthood. Behavioral scientist Helen Blom conducted research into the ability of deaf, hard-of-hearing and language-impaired adolescents to read online texts. It turns out that hyperlinks are a stumbling block. Blom, who also works at Kentalis, will defend her Ph.D. thesis at Radboud University on 14 February.

Young people browsing on the internet regularly encounter hyperlinks, which direct the reader to other parts of a website with a mouse click. These hyperlinks can make it more difficult to comprehend the text because of their unclear structure and the greater demand they place on working memory.

Lack of structure

"Many hypertexts—texts with hyperlinks—are poorly structured," says Blom. "Webpages are linked to each other even if they have only the slightest overlap in words or theme; there is no logic to it. This can make it difficult for deaf or hard of hearing people who often have limited vocabularies. Because the structure of these hypertexts is unclear, much energy might be invested in finding a route that is more meaningful for them. As a consequence, they might have less space left to concentrate on what they are reading.

In order to learn more about these reading problems, Blom did experiments whereby deaf, hard of hearing, and hearing students were tested on their reading comprehension skills. She also tested students with a Developmental Language Disorder (DLD). "I had the students read hypertexts with different structures," says Blom. "Some of these texts were illustrated with an image that visually described the underlying structure and with arrows that graphically depicted the links between the webpages. I analysed the extent to which they understood the texts, using multiple choice questions and mind maps. I compared their reading comprehension with that of hearing students with no DLD, and also with texts without hyperlinks."

Hypertexts

The tests revealed that students with hearing or language difficulties had

more difficulty reading than hearing students without DLD. But not only the test subjects with hearing and language difficulties had trouble understanding the hypertexts: all the students had more difficulty comprehending hypertexts than texts without hyperlinks. "Reading comprehension can improve if the structure of the hypertext is made more clear, for example by using visual aids, and if the students get help expanding their vocabulary," says Blom.

The research project has special significance for Blom. "I am deaf myself, so it was particularly rewarding for me to do this research. I was able to utilize both my professional and personal experience, and I felt that the students took me more seriously and became more open when they found out that I was deaf just like them and I knew what it was like. Those were special moments!"

Provided by Radboud University

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