

Abstract EFAS/DGA 2007

Speech / Language Learning and Auditory Memory in Cochlear-Implant-supplied children

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Background

Background for this presentation is the research of my thesis "Untersuchung zum Wortschatz und phonologischen Gedächtnis bei Cochlear-Implant-versorgten Kindern". Up to now there do exist only a few studies about the connection of language and auditory / phonological memory in the context of speech and language learning of Cochlear-Implant-supplied children. This connection is very important for the rehabilitation process with Cochlear-Implant-supplied children and adults.

After the Cochlear-Implant-supply the auditory / phonological perception and comprehension of language must be stable enough to build up a representation into the mental lexicon. The expressive language needs representation of words with the correct phonological-phonetic, lexical-semantic and morphological-syntactic characteristics.

Research study

My thesis started with 10 Cochlear-Implant-supplied children (5 per group). It was used a receptive and an expressive vocabulary test, a Fast Mapping Test for words, a none-standardised test for narrative abilities, 8 subtests from a neuropsychological test (5 memory tests and 3 free-recall-tests). The quantitative and qualitative evaluation of the results based on testspecific working questions and working assumptions. Group- and age-effects and correlations were examined based on the children's hearing age. Furthermore the results were evaluated on specific individual effects. The examination has its theoretical foundation on the working memory model from Baddeley & Hitch (1974) and Baddeley et al. (1986, 1990 and 1998) as well as on the speech production model from Levelt (1989).

Results

One result shows developmental language disorders in expressive vocabulary of at least 6 children. By way of contrast the receptive vocabulary of all children are inconspicuous. The total result does not show any significant group- or age-effects or effects which could be explained on biographical facts. The results of the memory tests were conspicuous, if the memory material was only presented once, if only little or none extra semantic information had been given or if the memory span was probably overstretched with the task of remembering and repeating a whole sentence. For the demand to repeat a sentence there must be the correct auditory comprehension, a phonological analysis, a lexical-semantic and a morphological-syntactic analysis as well as the correct comprehension, memory and speech production abilities. The results show relevance for the Auditory-Verbal Therapy of Cochlear-Implant-supplied children and Cochlear-Implant-supplied adults.

