

Voorwoord

In 2008 is er een schrijfwedstrijd ([Writing contest cluttering](#)) uitgeschreven om de theorievorming rond het onderwerp ‘broddelen’ te stimuleren. Ik heb mijn gedachten er zo eens over laten gaan, en mogelijk, heel misschien, als ik het niet mis heb, zou de ontwikkeling van broddelen en het vóórkomen van ‘broddels’ verklaard kunnen worden in het hierondergeschreven stukje.

Het is vanuit het hoofd direct in het Engels geschreven en dat viel bepaald niet mee, zo zonder woordenboek want ik heb alleen Engels-Nederlands en Nederlands-Spaans (waaruit ik het Spaanse Latijn simpelweg verEngelst heb). Daarna heb ik nog geprobeerd het te vertalen naar het Nederlands, en, dat is best wel gek, dat ging niet meer.

Ik hoop in ieder geval duidelijk te hebben gemaakt wat ik bedoel, want daar gaat het allemaal om.

Preface

Challenged by the [Cluttering writing contest](#) I wrote this article. I hope it gives the scientists at least some inspiration, and perhaps it resolves a part of the mystery. English is, as you might notice reading this, not my first language. But when you understand what I intend to say, I am satisfied.

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The role of the working memory-span on the development and occurrence of cluttering

This is an article about how cluttering may develop, and why cluttering happens.

Introduction

I start with some summarized knowledge and theories which are gathered in: "Psychologische aspecten bij taalontwikkelingsstoornissen" by Drs. C.P.M. Franken, handboek stem-spraak-taalpathologie B8.1.2 page 16. He is writing about theories about the relation between language-development disorders and phonological representation and working memory, and I distract hypotheses from it for the disorder of cluttering.

An average speaker utters his phonemes fast: 10-15 per second. The listener has to catch these phonemes very quickly and keep this in his working memory to build the right words and sentences of it.

You can store phonemes only one or two seconds, then you lose them. That are 5-7 words which can be hold (Miller, 1956 – I'm not sure if this refer is only about the 5-7 words or also about the one or two seconds).

To keep them stored a longer time, you have to repeat them (silent, in your head – 'suvocaal'). The faster one repeats a word in head, the more he can remind (Swanson & Ashbaker, 2000). So rapid speakers can remind more than slow speakers. The process of repeating the phonemes in head is called the 'phonological loop' (Gathercole and Baddeley).

Now my theory, based on the knowledge/assumes above:

The role of the working memory-span on the development and occurrence of cluttering

Cluttering can develop or happen when people have a shorter time of working memory than others have. This has an effect on comprehension & language learning and speaking.

Let us say/imagine they can hold the phonemes only one second where the others can hold 2 seconds. They have to cope with it by speaking in head twice as fast.

Comprehension & language learning

So a young child who is still learning his language is now at risk:

- when he repeats too slow, he misses parts of the spoken language and SLI can develop (Gathercole en Baddeley (1990)).
- He can also avoid developing SLI by repeating the words very rapidly to store them. For some children it can be too rapid to repeat all the phonemes of the words and then they will repeat the frames of it, or repeat it with a lot of assimilation. Now they are exercising the wordforms in a very global, diffuse way, which can explain why some/many clutterers have a not very clear pronunciation.
- The children with good oral-motor skills and good phonological talents can develop to the excessively rapid speakers who still keep speaking intelligible.

Speaking

Another way a short working memory influences the occurring of cluttering is the expressive part and explains the phenomena clutterers often complain about: losing what they wanted to say. They get lost in their stories, forget what else they wanted to say because of the extra short working memory. By speaking as quickly as possible they hope to finish their sentences before losing it.

Call for research

1. Do clutterers really have a shorter working memory than the average population?
2. I assume that rapid internal speaking trains/makes a habit of rapid aloud speaking. Does this thought make sense?

Related literature

- [The magical number 4 in short-term memory: A reconsideration of mental storage capacity](#)

Nelson Cowan in *BEHAVIORAL AND BRAIN SCIENCES* (2000) 24, 87-185.

"Over 40 years later, we are still uncertain as to the nature of storage capacity limits. According to some current theories there is no limit in storage capacity per se, but a limit in the duration for which an item can remain active in STM without rehearsal (e.g., Baddeley 1986; Richman et al. 1995)."

- [Out of memory: geheugen sneller vol in gebarentaal](#)

Gineke ten Holt & Petra Hendriks

In this article there is a clear explanation in Dutch about the working memory theory from Baddeley. So it will be less clear for the English readers.