

Lexical elaboration – A single case study of narratives produced two times in succession

The task of orally producing a narrative is a complex one which requires interaction among various linguistic levels. As such, analysis of narratives produced by a person with aphasia (PWA) can shed light on the contribution of the individual factors contributing to the process of producing a coherent and informative narrative. Without the appropriate words – in particular, nouns, verbs and adjectives – narratives about depicted scenes will remain incomplete and reduced in informational content. Thus, lexical accessibility and lexical retrieval play a crucial role in this task. The role of these factors will be addressed in this paper.

Picture descriptions and picture sequences produced by a chronic Broca's aphasic two times in immediate succession are analyzed to establish the differences in content, that is the variations in lexical selection observed in the first versus second production of the same narrative for the lexical categories nouns, verbs, adjectives and adverbs. The following issues are addressed:

- 1) What changes in lexical selection and retrieval are observed in the second telling in contrast to the first telling?
- 2) Are more difficulties observed in the first or in the second trial?
- 3) What is the relationship or trade-off between information left out and/or elaborated content in the first versus second telling of each narrative?

Procedure

Participant TH suffered a left CVA at the age of 40. Language assessment revealed agrammatic, Broca's aphasia with a moderate sentence production impairment and mild apraxia of speech. At 82, 90, 93, 100 and 103 MPO he orally described the Cookie Theft (Goodglass and Kaplan, 2003) and three pictures from the Binetarium (Norden, 1953) and produced narratives to seven WISC picture sequences (Wechsler, 1949). In two test sessions each picture description and picture sequence was produced two times in succession. The videotaped narratives were transcribed for analysis. The Linguistic Communication Measure of Lexical Efficiency (**ILE**) (Menn et al., 1994) was calculated for the 16 texts and 28 narratives. The ratio of the number of new words produced to the number of total words produced for the lexical categories nouns, verbs, adjectives and adverbs was calculated for the picture descriptions. For both the picture descriptions and the picture sequences, the number of new words produced in the second telling was assessed.

Results

Overall, from the first telling to the second telling a reduction in the **ILE** is observed in 82% of the cases. The reduction in the **ILE** can be interpreted as more efficient language processing. In 73% of the narratives more content units (**CU**) were produced in the second trial.

Tables 1a to 1e show the **ILE** and the ratio of nouns, verbs, adjectives and adverbs to the total number of words produced for each picture description for the five test times. The data in Tables 1a to 1e reveal which lexical categories contributed either to a reduction or an increase in the **ILE**. The distribution of the nouns, verbs, adjectives and adverbs varies for the various pictures and picture sequences.

Insert Tables 1a to 1e

In Table 2 the number of new words produced in the second telling for the picture descriptions and in Table 3 for the picture sequences. The numbers vary for the different lexical categories.

Insert Table 2 and Table 3

Discussion

The initial reasons for TH's orally producing a narrative a second time in succession were twofold. As of a certain degree of proficiency in narrative production, TH explicitly stated that he was not satisfied with his production. After experiencing the change in performance observed for the second telling – which can be described as a more structured narrative consisting of new words – the procedure of requesting a second telling was adopted for future test administrations pre- and post-therapy starting 82 MPO.

The first telling of the narrative is the more difficult task as new information must be provided to adequately describe 'what is happening' in the single picture or sequence of pictures. The interesting point is that the first telling so to say 'activates' the system and this activation or mobilization results in the production of new words in the second telling – which would not have been revealed, if a second telling was not produced. With regard to the new words, they are usually more detailed and/or differentiated in contrast to the ones used in the first production. For example, for the gardener sequence (103 MPO) the first occurrence of the underlined verbs (n = 7 new verbs): *looking at*, *lying* (on the ground), *sweating*, not *feeling* fine, feeling sick, *standing up*, looking at worms, *thinking about* out in the lake, *taking* can of worms, *walking* in the hot sun, whistling wonderful songs, *enjoying* the sun, *sitting down*, *dreaming*, *putting* the pole into the lake... were all new verbs in the second telling. The italicized verbs were also produced in the first production.

The variability in the number of new words for the different lexical categories is partially due to their availability from one description or picture sequence to the next and also to the content of the picture(s) on which the narratives are based. The picture sequences result overall in the production of more new words in the second telling. The influence of the availability of previously produced information from one picture description or sequence on the following one(s) must also be considered. The interaction between the number of words produced in the first telling and then not used in the second telling can in part be considered the result of the first telling still being active, in combination with a coalescence of the first and second telling, i.e. not being able to keep track of what has already been produced in the first telling.

The results from the analyses for the task of producing each narrative two times in succession have important implications for the assessment and remediation of aphasic language production – in particular for narratives: Since the second telling in immediate succession reveals that a person with Broca's aphasia even retrieves new words to tell the story – if given the opportunity to do so – a more realistic picture of the lexical retrieval abilities of a PWA can be obtained by repeating the task. As repetition is common practice in therapy and it is also the content of two of the principles of neuroplasticity: 'Repeat to remember' and 'Remember to repeat', requesting or allowing a second telling provides more information on the actual abilities of a PWA.

In summary, our data on narrative production reveal that more is present than meets the ear, i.e. than the first telling reveals!

References

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