

Development of an assessment tool for speech processing skills in English-speaking adults

In educational institutions there are a significant number of young adults with speech, language and literacy problems (Alvermann, 2002). Nevertheless, due to a lack of assessment tools, difficulties are often not recognized which in turn limits access to possible supports. The existence of speech issues as fluency disorders and word finding difficulties are thus somewhat hidden within many higher education settings. This is the case even though verbal expression capabilities are an important component of a successful education and career; it is important to allow young adults with speech processing problems a barrier-free education and to avoid negative effects on the social-emotional development (Guitar, 2013). There is a need for the creation of a detailed assessment tool of adult speech capabilities.

A psycholinguistic framework offers a way to study relationships between linguistic complexity, variability, and speech processing. For example, the framework offered by Stackhouse and Wells includes investigation of speech input, lexical representation, and speech output levels of processing (Pascoe, Stackhouse, & Wells, 2005). The specific objective of this study was to develop a comprehensive speech processing skills assessment battery for native English-speaking adults, taking psycholinguistics into account. The tool consists of subtests that assess auditory discrimination (AD) and non-word repetition (NWR; 18 items each), reading (R) and spelling (S) of non-words (13 items each), and spoonerisms for non- and real words (SPN/SPR: 10 items each). All test items are non-words (except SPR) to minimize semantic processing. A constant number of orthographic neighbours is maintained across stimuli to ensure real word likeness. Word properties that are varied include syllable length (consonant cluster complexity; vowel length), syllable number (1-6 syllables) and phonological aspects (stress patterns; articulatory difficulty of onset as per existing theories of speech difficulties/stuttering).

Data from 100 English-speaking adults (age 18-35 years) were collected and analysed in terms of general psychometric properties as well using Cronbach's Alpha to look at subtest reliability (dichotomous variables: correct/incorrect). Preliminary results support the validity and reliability of the assessment battery. Good internal consistency was observed, especially in: AD (18 items) =.79, SPR (10 items) =.77, SPN (10 items) =.67, and NWR (18 items) =.5. Further in depth analyses will look at the nature of mistakes and reaction time of participants.

These results encourage the usage of the assessment tool for research (e.g. comparison of speech processing profiles in adults with speech disorders) as well as the possibility of further development for clinical and educational settings (e.g. giving directions for the planning of speech and language therapy). An intended next step of this programme of work is to use the assessment tool to evaluate the performance of adults with persistent developmental stuttering and to explore differences between adults who stutter, adults with other speech processing difficulties, and peers with no speech difficulties.

References:

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