

## Phonological disorders of Arabic-speaking Jordanian children with speech and language impairments

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The present contribution is concerned with a pilot study of empirical issues in the analysis of severe functional articulation disorders in the speech of a sample of Arabic-speaking Jordanian children. The framework of the study has the aim of developing diagnostic tools for assessing the developmental status of the phonological processes in the child's disordered speech, and of providing a sound linguistic basis for this development. The theoretical linguistic basis for the study is taken from Natural Phonology (NP), and one of the theoretical goals is to provide further external evidence for developing NP theory.

In the study, the natural phonological processes in the speech of children previously diagnosed on the basis of standard medical production and hearing tests with speech and language impairments (SLI) are analysed, and compared with the processes in the speech of age-matched normally developing (AMN) children in order to characterize their phonological disability. Closeness of age-matching was not an issue in this initial pilot study.

In order to address these issues, a systematic dual component pilot corpus was created, as a preliminary step before creating a larger scale corpus at a later point; statistical results are not possible on this small corpus, but initial theoretically motivated questions have been sharpened by close analysis. Recordings based on different kinds of systematic elicitation were used: about 10 minutes each of speech from four AMN children in the age range 2 to 5 years old was recorded, and about 20 minutes each of speech from 6 SLI children in the range 4 to 7 years. Longer sessions were necessary with the SLI children because of temporal properties of the impairments, the need for somewhat different test types, concentration problems and the need to provide motivating breaks and to maintain a friendly atmosphere.

For the AMN children, spontaneous narration plus single word articulation tests were used to collect data on all the Arabic consonants in word initial, medial and final positions (following the study of Arabic consonant acquisition by Amayreh & Dyson 1998). For the SLI children, the same procedures were used, plus flash card sets routinely used in the clinics in which the children were being treated, selected from 5 different flash card sets by different authors. In addition, two further types of stimulus were used: first, an Arabic encyclopedia for children from 1 to 4 years old, focussing on human body parts, family, household objects, and other familiar domains; second, various colourful toys representing household and kitchen objects. The recordings were annotated using the Praat phonetic workbench, first at a broad phonetic level, then at the narrow phonetic level for selected extracts.

The presentation will illustrate typical cases of impairment, present the initial results of the analyses of the annotated data in terms of the symptomatology of the children's speech and of NP processes, and discuss requirements arising for a more comprehensive corpus and analysis.