

Differentiating speech delay from disorder: does it matter?

Commented by: Haydée Fiszbein Wertzner¹, Luciana de Oliveira Pagan-Neves¹

Dodd B. Differentiating speech delay from disorder: does it matter? *Top Lang Disord.* 2011;31(2):96-111.

The diagnosis of children with speech sound disorders still is a topic of discussion despite the remarkable progress achieved in the last ten years. It is well known that children with speech difficulties are heterogeneous, differing in severity, underlying cause and speech error characteristics.

Classifying the disorder is difficult and speech and language pathologists need at first to establish what criteria were defined as the basis for the classification adopted. Dodd (2011) addresses on her study the question about the differentiation between speech delay and disorder. By definition she considers that children with delayed speech development are classified by the presence of speech error patterns that are typical to children of a younger chronological age in the normative data for that standardized assessment. The classification of disordered speech is also based on the speech error pattern but in this case, errors that are atypical of any age group in the normative sample for the assessment.

The author of the article points out that several studies in the literature indicate as explanatory factors for both the delay and the disorder, an inter-relationship between motor, auditory and visual perception and aspects cognitive-linguistic aspects. Earlier studies by Dodd and her research group demonstrated that although the three aspects contribute to the phonological development in children with speech sound disorder it seems that the ability to abstract phonological rules is the most important one. According to the author this finding demonstrates that cognitive-linguistic difficulty underlies the organization and the knowledge of phonological rules.

Searching for contributions to the understanding of differentiation between the cognitive-linguistic characteristics presented by speech delayed and speech disordered children the author based her assumptions on the assertion that the difference between these children is due to both the type of speech error patterns used and the number of speech errors made. Thus, the study hypothesized that speech sound disordered children would perform less well than children with delayed phonological development on measures of rule abstraction and cognitive flexibility.

Dodd's previous research included 46 children (23 with delay and 23 with disorder) paired by age and gender. All children were part of a larger group of 275 children who were

evaluated by Dodd and McIntosh⁽¹⁾ considering phonology, auditory and oral motor abilities.

Two experimental tests were used: the first was the Flexible Item Selection Test and the second the The Nonlinguistic Rule Abstraction Task. The first test measured the a core ability in executive function by using figures representing objects varying in shape, size and color. Children were solicited to point out two figures that could be matched. The other test concerning about the abstraction rule was applied using a computer programmed to code and store children's performance. Children should learn different rules to see the hidden animation behind it.

Diagnostic assessment also included the application of oral diadochokinesia speech inconsistency in addition to the experimental tests. Although the results from those two tests were not discussed in the article the use of these measures presented significant contributions to the characterization of the involvement of oral motor skills in these children.

Results from the present research indicated that children with speech disorder performed worse than speech delayed in the two executive function tests confirming Dodd's initial hypothesis. It suggests that speech disordered children are different from speech delayed ones considering both the type and the number of speech errors and the responses in relation to cognitive flexibility and abstraction rules.

Studies from Dodd and her group have contributed to the most appropriate differentiation and classification of speech sound disorder subtypes. They propose that this classification should be based on cognitive-linguistic characteristics. In this study they observed that children with consistent speech disorder presented greater difficulties in executive function but not always the most severe children presented the worst performance at the tests.

Speech disordered children presented poor performance on cognitive flexibility test than the speech delayed. It indicates that they were less able to identify another cognitive path in which the items could be associated demonstrating their difficulty in both switching attention patterns between different conceptual domains and inhibiting their first choice. The author considers that cognitive flexibility is an aspect of human intelligence that allows the integration of new information during the learning process of the developing child. This is the reason why the assessment of this ability in children with speech disorder and speech delay may reflect the way that the child is acquiring speech, recognizing phonological patterns and increasing their own phonological inventory.

The authors also observed that speech disordered children who learned the first rule from the test usually persisted in its

(1) Department of Physical Therapy, Speech-Language Pathology and Audiology, and Occupational Therapy, School of Medicine, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

Correspondence address: Haydée Fiszbein Wertzner. R. Cipotânea, 51, Cidade Universitária, São Paulo (SP), Brasil, CEP: 05360-000. E-mail: hfwertzn@usp.br

use even when another rule should be applied for the correct response. This finding reveals the difficulty that speech disordered children present during the learning rules process which directly reflects the failure at the acquisition of the phonological rules from their native language.

Finishing her article the author also comment on the importance of the differentiation between delay and disorder to the speech therapy. She considers that the best way to treat children with speech disorder is using phonological contrasts approach that allows the child not only to learn that phonological constraints that must be produced to avoid misunderstandings but also to facilitate the organization of phonemes into classes of sounds. The only problem with this approach is that literacy difficulties characteristic of speech disorder may not be directly addressed by therapy that teaches spoken phonological rules.

In general terms the author reinforced during her presentation the importance of using the correct terminology to distinguish speech delay from speech disorder. The aim of this research was to highlight that despite the symptom is the same (both groups of children present difficulty at learning the phonological organization rules that is reflected by the inappropriate production of speech sounds) the underlying aspect related to such difficulty varies implying in a different therapeutic procedure.

REFERENCES

1. Dodd B, McIntosh B. The input processing, cognitive linguistic and oro-motor skills of children with speech difficulty. *Int J Speech Lang Pathol.* 2008;10(3):169-78.