Bang for Your Buck: A Single-Case Experimental Design Study of Practice Amount and Distribution in Treatment for Childhood Apraxia of Speech

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Article Summary:

Childhood apraxia of speech (CAS) often requires considerable intervention, and it has been suggested that intensive intervention is needed. There are at least two aspects of "intensity": *amount* of treatment (less vs. more: e.g., 10 hours vs. 20 hours) and *distribution* of treatment over time (massed vs. distributed: e.g., 20 hours in 2 weeks vs. 20 hours in 10 weeks).

This study examined the effects of practice amount and practice distribution in 6 children with CAS between 4 and 11 years old. Using a single-case experimental design with two phases, each child serves as their own comparison. Treatment involved two weekly sessions of about 1 hour of ASSIST (Apraxia of Speech Systematic Integral Stimulation Treatment), over two 4-week treatment phases (i.e. 16 sessions of ~1 hour). Each session was divided into two periods of ~25 minutes each; one per treated condition.

For each child, 3 sets of 10 individualized and personally meaningful target words and phrases were developed and matched for interest (e.g., food items, names of friends), number of syllables, and phonetic complexity. After matching, sets were randomly assigned to either the 'massed' condition, the 'distributed' condition, or an untrained 'control' condition.

The outcome measure was speech accuracy of all 30 items (massed, distributed, control) on a weekly test (imitation task). Analysts were blinded to treatment condition as well as time of recording (before, during, after treatment). Findings indicated that a greater amount of practice results in greater learning, and that more massed (intensive) practice tends to enhance speech motor learning for most children with CAS. In addition, all children showed treatment effects (greater learning for treated sets than for untreated sets, providing further support for the efficacy of integral stimulation-based treatment.

In sum, based on this study, children with CAS benefit from more practice and from massed practice, supporting recommendations for intensive treatment for children with CAS.