Abstract: Objectives: Writing disorder is a learning disability that affects writing, which requires a complex set of motor and information processing skills. Butler’s in 2011 proposed a protocol in order to improve the LD, however, further studies regarding the effectiveness of this protocol have not been provided as so far. The main aim of this study is investigation of the effectiveness of NFT method in writing disorder children using the proposed protocol.

Methods and Materials: NFT experiments have been performed on 12 writing disorder children. Subjects were randomly divided into two groups: experimental (n=7) and control (n=5). Experimental subjects are participated in 15 sessions of neurofeedback (30-45 minutes and 3 times in a week) in order to increase the ratio of alpha/theta in channel of C3 and also to increase the ratio of alpha/theta in channel of C4. Also, control subjects have received a placebo treatment. The subject with the number of 3 in the experimental group lefts experiment after 3 NFT sessions due to her family problems.

Results: During 15 sessions of NFT with Butler’s protocol, 4 subjects in experimental group had positive effects in their brain waves amplitude. In this children beta (15-20 Hz) has increased and theta (3-6 Hz) has decreased to the desired values of normal subjects. Although the number of their mistakes in spelling was subtracted significantly, but there are still mistakes in their writing. In 2 subjects in the experimental group and all control group subjects have not observed any changes in their brain waves amplitude.

Conclusion: The reason of inequality in the quantitative EEG of experimental group after NFT with normal values can be associated to inadequate numbers of NFT sessions. The NFT with Butler’s protocol had a positive effect on performance of 67% patients in experimental group and the number of their mistakes during writing has been significantly reduced in this group. According to time duration of implemented experiments, the Butler’s proposed protocol is not an appropriate protocol. This method cannot be useful for short-term treatment; but, within nearly 15 sessions, a relative improvement can be expected in the children.

Keywords: Writing disorder, Neurofeedback Training, Relative Powers.

Presentation: Oral