

Title: Pilot Usability Testing of the Box and Block Test in Occupational Therapy by People after Stroke: Creating a Video Manual

Abstract:

Stroke often results in impaired upper limb function. Occupational therapists use standardized tests to objectively assess hand dexterity. An example is Box and Block Test (BBT), which assesses mainly fine and gross motor skills. The tested subject's task is to sequentially move as many blocks as possible from one side of the test box over partition to the other side using only the tested limb within one minute.

For this test, only working versions of Czech translations of instructions by Mathiowetz et al. from 1985 were used in the Czech Republic. Therefore, in 2021 Rybářová et al. created Extended Czech Version of Manual for BBT with instructions in Czech. It also contains new more detailed rules that should ensure greater objectivity in the standardised implementation of BBT. According to these rules, it is possible to evaluate, for example, the situation when block falls outside the test box.

The main goal of the bachelor thesis was to create video manual for correct administration of BBT according to the new manual. Therefore, video documentation was obtained using two healthy subjects as well as the author of this thesis. The video manual was then created in Kdenlive program. It includes basic information about the testing, demonstration of the entire testing including two options for entering instructions and demonstration of some situations that can occur in real life in connection with their correct evaluation. It can be found in Box and Block Test online course on: <https://kurzy.lf1.cuni.cz/>.

A secondary goal of the thesis was to determine the advantages and disadvantages of the new manual. These were determined by testing and filming 19 post-stroke patients at Kladruby Rehabilitation Institute. The manual's great advantage were clear and well organized instructions in the Czech language. Its disadvantage, however, was, for example, the absence of BBT norms.

Key words: Box and Block Test, Stroke, Manual Dexterity Tests, Occupational Therapy, Video Manual