

The effectiveness of an elementary school chair design to ensure ease of mobility

Lu'lu' Purwaningrum, author

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Abstrak

The aim of this study was to evaluate the effectiveness of Indonesian elementary school chair modification and to determine the proper holding position when transporting chairs during class activities for children aged 6-8 years old. Participants included 14 healthy, right-handed Indonesian and Japanese children. The effectiveness of the modification was examined by comparing the original chair (OR) and modified chairs (MD), first in the lower (LHP) and second in the higher (HHP) holding positions using three measurements, namely task time, using an electromyography (EMG) technique while carrying a chair, and measuring success rates for proper lifting and turning a chair methods. The use of the chair (MD and LHP) significantly reduced task time and significantly decreased the activity of the middle fiber of the deltoid muscle. However, for lifting and turning a chair onto a desk, these strategies did not eliminate the influence of excessive chair weight and discouraged easy task completion.