

Perancangan workbench untuk pengrajin ukiran kayu asal Bali berdasarkan prinsip ergonomi demi mengurangi risiko terkena Musculoskeletal Disorder (MSD) = Design of workbench for Balinese wood carving craftsman based on ergonomics principles to reduce the risk of Musculoskeletal Disorder (MSD)

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Abstrak

Kerajinan ukiran kayu Bali termasuk salah satu sektor dengan skala besar dan berkontribusi pada perekonomian negara. Namun, sayangnya pengrajin ukiran kayu asal Bali mengalami banyak keluhan akibat postur kerjanya yang canggung. Kondisi ini dapat berisiko menyebabkan pengukir terkena Musculoskeletal Disorder (MSD). Apabila tidak diperbaiki, maka dalam jangka panjang, kualitas hidup dari pengukir akan menurun. Oleh karena itu, penelitian ini dilakukan untuk merancang workbench atau meja kerja sebagai sarana untuk memperbaiki postur kerja pengukir. Perancangan workbench pada penelitian ini dilakukan dengan kerangka kerja Perancangan Produk Rasional oleh Nigel Cross dan berasaskan prinsip Participatory Ergonomics Design. Postur kerja pengukir dievaluasi di awal dan akhir penelitian menggunakan perangkat lunak Jack Digital Human Modeling (DHM) untuk mendapatkan analisis Lower Back Analysis (LBA), Ovako Working Posture Analysis (OWAS), dan Rapid Upper Limb Assessment (RULA). Penelitian ini menghasilkan luaran berupa rancangan workbench untuk pengukir asal Bali dalam proses kerjanya mengukir papan nama kayu. Workbench berhasil menyesuaikan dengan kebiasaan kerja pengukir Bali sembari meningkatkan kenyamanan kerjanya. Hasil evaluasi postur kerja setelah perbaikan mengindikasikan nilai yang aman, menyatakan workbench berhasil memperbaiki postur kerja pengukir.

.....Balinese woodcarving craft is one of the sectors with a large scale that contributes to the country's economy. However, unfortunately wood carving craftsman from Bali experienced many problems due to his awkward working posture. This condition can risk the craftsman to develop Musculoskeletal Disorder (MSD). If not repaired, then in the long run, the quality of life of the carver will decrease. Therefore, this study was conducted to design a supporting workbench. The design process in this study uses Rational Product Design framework by Nigel Cross and based on the principle of Participatory Ergonomics Design. The working posture of the carver was evaluated at the beginning and end of the study using Jack Digital Human Modeling (DHM) software to obtain Lower Back Analysis (LBA), Ovako Working Posture Analysis (OWAS), and Rapid Upper Limb Assessment (RULA) analysis. This research produced an output in the form of a workbench for carving wooden nameplates. Workbench successfully adapts to the work habits of Balinese carvers while increasing the comfort of their work. The results of the evaluation of the working posture after the repair indicate a safe value, stating that the workbench has succeeded in improving the work posture of the carver.