

# DEVELOPMENT OF A BIOMECHANIC ANALYSIS TOOL FOR ARCHERY SPORTS (APPLICATION BASED)

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## ABSTRACT

This research aims to: (1) How effective is the development of biomechanical sensors in archery?; (2) What is the feasibility of developing biomechanical sensors in archery?; (3) How do users respond to the development of biomechanical sensors in archery?

This type of research is development (Research and Development). The development steps using the ADDIE design are the Analysis, Design, Development, Implementation and Evaluation stages. The validator is carried out by 3 material experts, 3 media experts. The small scale was carried out to all trainers at UNY Archery UKM, totaling 3 trainers. Meanwhile, to test on a large scale, it was tested on 6 Bamboeroncng Club trainers. Effectiveness test at the archery clubs Taurus Archery Club (Banyumas) and Blaburan Archery Club (Yogyakarta) with 15 trainers. The data collection instruments used were: Preliminary Study Data Collection Instrument (face-to-face interview), then an instrument in the form of a questionnaire was prepared to determine product quality using a closed Likert Scale questionnaire.

The results of the research show that: (1) Steps for developing biomechanics in archery using the ADDIE method. The tool model consists of a sting jig, serving jig and string server. (2) The model developed for biomechanics in archery is suitable for use. Based on the product quality assessment, namely: the language procedure indicator is 85.71% (feasible), the usage procedure indicator is 82.14% (feasible), the biomechanical indicator in the safe archery branch is 89.29% (feasible), and the biomechanical model indicator in the branch archery was easy to implement at 85.71% (feasible). (3) The tool model developed is of good quality and easy to use with precision that can be packaged with one tool, with a p value <0.05.

Kata Kunci: *Archery Equipment, Beomechanics, AI Archery Sports.*