

# **DEVELOPMENT OF A SENSOR-BASED INSTRUMENT TO MEASURE POINTING TECHNIQUE CAPABILITY IN PETANQUE SPORTS**

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## **ABSTRACT**

This branch of petanque is a sport that is still new, but competitions in this sport already exist from Regency, Regional, National to International levels. Therefore, to support sporting achievements in the petanque sport, development in the field of technology is needed. One of the developments in sports technology that is currently urgently needed is the development of instruments that are valid, reliable and have practical value when used so that they can describe the technical abilities of petanque athletes. The aim of this research is to develop a sensor-based instrument to measure pointing technique abilities in the sport of petanque. This research uses research and development methods using the ADDIE (Analyze, Design, Development, Implementation, Evaluation) model. The research procedure in the first stage used a qualitative descriptive research design. In the Analyze stage, activities are carried out by collecting information in the form of needs analysis and document analysis. The data collection technique uses the Mendeley technique, data analysis uses qualitative thematic. At the Design stage, a focus group discussion was carried out with experts to develop a sensor-based instrument to measure the ability of pointing techniques in the sport of petanque. This development stage is the stage of realizing the instrument that has been created in the design stage so that it becomes a product that has been validated by experts and is ready to be tested. Participants in this research were documents and seven experts.

Researchers created an assessment tool in the form of giving scores on the results of pointing tests carried out by athletes. The score achieved by the athlete is in accordance with the provisions of the results of the pointing throw based on the test sheet that has been determined. Apart from that, observation tools were also prepared to be used when applying the instruments developed in small-scale tests and large-scale tests. As the final measurement stage, researchers prepare measurements to test the effectiveness of the instrument for measuring.

The initial draft of a sensor-based instrument to measure the ability of pointing techniques in the sport of petanque was made in the form of a book which contained the objectives, tools used, instructions for carrying out the test, and scoring. The initial draft was accompanied by images that were clearly explained so that it was easier to use this instrument. The results of the initial sensor-based draft to measure the ability of pointing techniques in the sport of petanque have been well structured and are ready to proceed to the next stage, namely testing the validity and reliability of the instrument.

*Kata Kunci: Instruments, sensors, pointing skills, petanque*