

Implementation of the Kayak Rowing Ability Test Instrument in Banda Aceh and Aceh Besar City Podsi, Indonesia

Araiko Rahmat¹, Syamsulrizal¹, Mansur¹, Yeni Marlina¹, Muhammad Iqbal², Amanda Sukriadi¹

¹*Syiah Kuala University*

Jln. Teuku Nyak Arief, Darussalam, Banda Aceh, Aceh, 23111, Indonesia

²*STKIP Kusuma Negara*

Jl. Raya Bogor Km. 24 Cijantung, East Jakarta, 13770, Indonesia

DOI: [10.22178/pos.93-7](https://doi.org/10.22178/pos.93-7)

LCC Subject Category: GV711

Received 26.05.2023

Accepted 28.06.2023

Published online 30.06.2023

Corresponding Author:

Araiko Rahmat

araikorahmat020@gmail.com

© 2023 The Authors. This article is licensed under a Creative Commons Attribution 4.0 License



Abstract. Instruments are necessary because they are essential in various contexts, such as research, evaluation, measurement, or other practical actions. Tools help in the collection of data needed for a particular purpose. For example, surveys use questionnaires as instruments to collect data from respondents. Mechanisms allow systematic and structured collection of information. This study aims to determine the value of validity, reliability, and objectivity. This study uses quantitative analysis. The population in this study was all rowing athletes in Banda Aceh City and Aceh Besar Regency, totalling 48 people – data collection by directly measuring samples using test instruments and measuring the ability to row kayaks in 2019. Data analysis techniques using validity tests and reliability are analysed using the SPSS. Instrument Validity of the rowing speed test for kayaks in male athletes obtained a score of 0.726, and the ability to row kayaks in female athletes received a score of 0.805. The results of the statistical reliability test of the rowing speed test instrument in male athletes obtained a score of 0.884.

In contrast, the statistical reliability of the kayak rowing speed test instrument in female athletes obtained a score of 0.948. The test is declared reliable because the results are more significant than 0.6. The test gets objective results in the Good category. Thus, it can be concluded that the test instrument measuring the ability to row kayaks in the Banda Aceh and Aceh Besar Podsi that has been modified or designed by previous researchers after being used in Banda Aceh and Aceh Besar Districts has validity, reliability and objectivity values as well as percentages in the Good Category.

Keywords: Implementation; Instruments; Rowing Capabilities.

INTRODUCTION

Sports coaching activities today have become one of the areas or concerns that are important and considered in various fields. It has become one element that cannot be separated from the development and progress of science and technology, which continues to change from time to time. Sports coaching that aims to achieve good achievement, in its application, must apply the requirements of sports coaching in a systematic and well-structured manner.

Excellent evaluation in coaching also has a role that is no less important in achieving sports achievements. Sports evaluation measures and analyses an exercise program's progress,

achievement, and effectiveness. This evaluation is essential to ensure that the athlete's coaching goals are achieved and identify areas needing improvement. The following are some evaluation methods commonly used in sports.

Evaluation will contribute significantly to the advancement of sports coaching achievement. This is because the progress of the success of coaching can only be measured through assessment. Based on the evaluation results, the coaching program's adjustment and development are carried out continuously.

The existence of the instrument that has been developed is expected to help trainers and coaches of rowing sports to see or monitor the

development of training based on rowing ability standards as part of the evaluation of coaching carried out so far. The success of coaching that is carried out depends on the evaluation process carried out as well. Therefore, the test instrument measuring the ability to row kayaks that have been developed is considered very supportive of the evaluation process of the components evaluated, especially on the rowing ability of rowing athletes, especially in the Aceh Besar Regency and Banda Aceh City.

Instruments are necessary because they are essential in various contexts, such as research, evaluation, measurement, or other practical actions. Tools help in the collection of data needed for a specific purpose. For example, surveys use questionnaires as instruments to collect data from respondents. These instruments enable systematic and structured information collection.

METHODS

This research is a quantitative type of research that uses an evaluation approach that aims to analyse the success or picture of the implementation of a measurement instrument. The study conducted was designed to utilise an evaluation approach. This study was designed to explore the performance of test instruments and measurements of kayak rowing ability in Ponsi Banda Aceh City and Aceh Besar Regency.

In this study, the researchers collected data by directly measuring samples using test instruments and measuring the ability to row kayaks in 2019 with the norms in Table 1.

Table 1 – Norms of classification of the 50-meter rowing test

No	Classification	Score, sec	
		Men	Women
1	Tall	Down -10.20	Down -18.20
2	Keep	10.21-14.28	18.21-25.63
3	Kurang	14.29- Over	25.64-Over

Data analysis is systematically searching and compiling data obtained from measurement tests, interviews, observations, and field notes and describing them to be informed others. This technique assesses a development product's feasibility level and quality. Then the next step is analysed using data processing software.

RESULTS AND DISCUSSION

The kayak rowing ability measurement test in Podsi Athletes of Banda Aceh City and Aceh Besar was carried out by measuring the ability to row a kayak. The trial and measurement instrument of the ability to fight a kayak boat developed in 2019 has been declared valid and reliable with a score as in Table 2. As it is known that the requirements for a good test and measurement instrument are instruments that have validity values and are declared reliable in this study, measurements are also made on the validity value and reliability of test instruments measuring the ability to row kayaks. The measurement results of these components are listed in Table 2.

Table 2 – Validitas values and reliability of Aceh kayak rowing ability test instruments

Test instruments in 2019					Test instruments in 2023				
No	Kind	Category	Score	Information	No	Kind	Category	Score	Information
1	Validity	Son	0.883	Valid	1	Validity	Son	0.726	Valid
		Daughter	0.716	Valid			Daughter	0.805	Valid
2	Reliability	Son	0.464	Reliable	2	Reliability	Son	0.884	Reliable
		Daughter	0.811	Reliable			Daughter	0.948	Reliable

Based on the scoring data, the validity and reliability value table above show that the kayak rowing ability measurement test instrument developed in 2019 is said to be still valid for current use. Authors [1] state that validity is the correctness of measurements related to questions, instruments or tests, the extent to which it

measures what is meant in sizes. While according to [2], validity is a measure that shows the area to which measurement instruments can measure what researchers want or measure. Based on the theory of the experts above, it can be concluded that validity is an essential concept in research that shows the extent to which measurement in-

struments can measure what is desired precisely and accurately.

High validity is necessary for research to ensure reliable and accurate results. Furthermore, the author [4] said reliability is the "consistency of measurement results obtained from measuring instruments or tests in the same situation. Based on the theory, reliability can be interpreted as measuring how reliable or consistent a measuring instrument or test gives the same results when repeated at the same conditions or time. Determining the reliability and validity of the measuring instrument or test is important. While objectivity, according to [5] explained that objectivity is "a property possessed by measuring instruments or meters in providing measurement results that are not affected by subjective factors". Further, the authors [6, 7] stated that objectivity is "the nature of measurements carried out honestly, impartially, and neutrally without any element of influence from subjective factors that can affect measurement results". Based on this theory, objectivity is the ability of a process, action, or decision to be neutral, fair, and not influenced by subjective factors or personal interests.

With the stated test and measurement instrument of the ability to row a kayak boat valid and reliable that the tool is quite suitable to measure the rowing ability of kayak number athletes in Aceh Province. The above conditions were also responded to quite well by the Aceh provincial rowing coach through an interview who said: "The tool used is enough to provide a good picture of the ability to row a good kayak boat by the ability of each athlete that we have been monitoring. For example, for an athlete, a Khairil so far through time measurement trials for a distance of 50 meters, obtained the best results with a time of 10.89 seconds and through measurements using this instrument, also obtained results with a time of 10.19 seconds, with this instrument enough to help us in coaching in terms of field supervision and control". On the same occasion the assistant coach in an interview also said that, "in general the instrument used is quite good for measuring the capacity of our athletes' rowing ability, especially for athletes with a short distance specialisation, namely a 200-meter distance sprinter considering the distance used in this test instrument as far as 50 meters from the start to the finish line".

Based on the results of data collection and data reduction carried out by researchers through several primary data sources and field trials, it can be concluded that the test and measurement instruments for the ability to row Aceh kayak boats developed in 2019 still meet the rules of a test and measurement instrument, namely valid with a score of 0.883, and reliable with a score of 0.464.

CONCLUSIONS

Based on the results of research that has been conducted on the Aceh Podsi Rowing Athletes in 2023, it can be concluded that the test instruments used are appropriate to determine the rowing ability of the Aceh PODSI and obtain the test results of the Validity of the Kayak Rowing Speed Test Instrument in male athletes received a score of 0.726 and the ability to row kayak boats in female athletes obtained a score of 0.805.

The results of the statistical reliability test of the rowing speed test instrument in male athletes obtained a score of 0.884. In contrast, the statistical reliability of the kayak rowing speed test instrument in female athletes received a score of 0.948. The speed test of rowing kayaks on Podsi athletes in Banda Aceh and Aceh Besar was declared reliable because the results obtained were more significant than 0.6. The test instrument measuring the ability to row kayaks on the large-scale Podsi Banda Aceh and Aceh Besar received objective results with the Good category.

The hypothesis proposed is accepted as accurate. Therefore, the test instrument measuring the ability to row kayaks in the Banda Aceh and Aceh Besar Podsi that has been modified or designed by Previous Researchers after being used in Banda Aceh and Aceh Besar Districts has a good validity, reliability and objectivity value.

The implications of the results of this study are:

1. Provides an easy rowing trainer to perform speed tests rowing kayak boats.
2. It is expected to assist trainers in coaching and improving the ability to paddle kayaks at Podsi Banda Aceh and Aceh Besar and to be a consideration and benchmark in efforts to improve the achievements of Podsi Aceh rowing athletes.

REFERENCES

1. Widowati, A., & Setiowati, A. (2019). *Penggunaan Ergometer Rowing Terhadap Peningkatan Power Endurance Atlet Rowing Jambi* [The Use of Ergometer Rowing to Increase the Power Endurance of Jambi Rowing Athletes]. *Cerdas Sifa*, 8(2), 72–75 (in Indonesian).
2. Aldiansyah, A., & Junaidi. (2018). *Evaluasi Kondisi Fisik Dominan Pada Atlet Dayung Kayak Usm Tahun 2018* [Evaluation of Dominant Physical Conditions in Usm Kayak Rowing Athletes in 2018]. *Jurnal Penjaskesrek*, 5(2) (in Indonesian).
3. DqLab. (2021, October). *Kenali Pengertian Analisis Data Menurut Para Ahli, Yuk!* [Get to know the definition of data analysis according to experts!]. Retrieved from <https://dqlab.id/kenali-pengertian-analisis-data-menurut-para-ahli-yuk> (in Indonesian).
4. Maybery, K. (2002). *Rowing: The essential guide to equipment and techniques (Adventure Sports)*. Singapore: New Holland Publishers.
5. Hasanuddin, I., Husaini, Rizki, M. N., Akhyar, Nasruddin, M., Amir, N., Marlina, Y., & Asmawati, L. (2020). The Design of Rowing Ergometer Based on the Anthropometry of Acehnese Male Athletes. *IOP Conference Series: Materials Science and Engineering*, 931(1), 012022. doi: 10.1088/1757-899x/931/1/012022
6. Sukardi. (2007). *Metode Penelitian Pendidikan* [Educational Research Methods]. Yogyakarta: Bumi Aksara (in Indonesian).
7. Sugiyono. (2011). *Metode Penelitian kuantitatif, kualitatif dan R&D* [Quantitative, Qualitative and R&D Research Methods]. Bandung: Alfabeta (in Indonesian).
8. Wijono. (2011). *Pembinaan Olahraga Dasar* [Basic Sports Coaching]. Surabaya: Air Langga Universitas Press (in Indonesian).
9. Worden, T., & White, E. D. (2012). Modifying the U.S. Air Force Fitness Test to reflect physical combat fitness: one study's perspective. *Military Medicine*, 177(9), 1090–1094. doi: 10.7205/milmed-d-12-00066
10. Widiastuti. (2015). *Tes Dan Pengukuran Olahraga* [Sports Tests and Measurements]. Jakarta: Rajawali Pers (in Indonesian).
11. Sare, Y. (2019). *Pengembangan Kartu Pengukur Kompetensi Siswa Pada Pembelajaran Pjok Di Sma Kecamatan Larantuka Kabupaten Flores Timur NTT* [Development of Student Competency Measurement Cards in Pjok Learning at Senior High Schools in Larantuka District, East Flores Regency, NTT]. *Jurnal Penjaskesrek*, 6(1), 85-95 (in Indonesian).