



THE RELATIONSHIP BOW MODIFICATION TOOL WITH

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Abstract

This study aims to determine the participants self-confidence levels and evaluate the effectiveness of interventions using bow modifications in improving archery competence. The study population was participants in the Cimahi Mandiri archery 1 training program, with a sample of 7 respondents selected using purposive sampling. Data collection instruments included a self-confidence score questionnaire, an archery score test, and observations of bow modifications. Data Were analyzed using descriptive statistics to determine the distribution of self Confidence scores and improvements in archery performance, and correlations between variables were conducted. The results showed that the majority of participants (89,1%) had self-confidence score of 21.in the moderate to low category. After the intervention, there was a significant improvement in archery skills, with bow modifications proving effective. The conclusion is that the intervention had a positive effect on improving both self-confidence and archery performance, although there were technical challenges that needed to be addressed. Recommendations are directed at improving instruments and training implementation to optimize learning outcomes.

Keywords: self-confidence, archery intervention, data analysict.

INTRODUCTION

Archery is one of the sports that has been registered as a sport that is contested in the Olympics. Archery is currently starting to be popular from the lower and upper classes, in cities and villages which are carried out by children, teenagers and the elderly. This of course spurs various events. The highest achievement can only be achieved with exercises that are systematically planned and carried out continuously accompanied by supervision, discipline and guidance from professional trainers. To achieve maximum achievement in archery, it is necessary to pay attention to the factors that influence through the approach of related sciences. (K. D. Vanagosi, P. Citra, & P. Dewi, 2019)

Archery is a static sport that requires good physical condition including strength and endurance, especially in the upper body muscles. When performing archery techniques, especially when pulling the bowstring, the muscles will experience isotonic contractions, especially in the initial draw (primary draw). In full pulling, the arm that pulls the bowstring, the fingers of the hand must touch the chin and the fingers of the hand stick under the chin (anchoring) and the arm that holds the bow must be completely locked, as

well as the pulling arm so that isometric contraction occurs. (Dony Dwi Sukma Yulianto, 2015.)

Archery has opened eyes for the development of archery sports in Indonesia to further develop professional coaching. Coaching is the main goal in achieving maximum achievement, including archery, it is necessary to emphasize a continuous training program. The increase in achievement in archery students is a direct result of the number and quality of training carried out (Milham, 2014)

Another problem that often arises in the process of teaching and learning archery is the selection of tools that are used directly on the actual bow, so that students have difficulty in pulling arrows from the bow. Students in bow mastery are actually enough, but when pulling arrows, most of them are not optimal so that releasing the bow is not on target (H. Hakim, , H. Hakim, M. Ishak, & P. Sports Coaching Education Study, 2022)

(C. Bagas Pranata, 2023) states that movement skills are movements that follow certain patterns or shapes that require coordination and control of part or all of the body that can be done through the learning process. A person can be said to be skilled if his movement skills are good and efficient, he is said to be efficient if he executes movements correctly without wasting energy Therefore, archery skills are stable and consistent movements in which there are stance, nocking, set up, drawing, anchoring, tightening, aiming, release and follow through movements. And in the sport of archery every movement must be done in a fixed or constant motion. (Kurnia Marzuki Bagus, 2019) Sports skills are that students are able to practice basic techniques in sports that have been taught, and students are able to answer questions related to the sports techniques carried out, when asked questions after the activity (S. Napfiah, , N. I. Yazidah, , D. F. Argarini, , & D. abner, 2021)

Modification of physical education learning is important for physical education teachers at every level of education, starting from elementary school (SD), junior high school (SMP) and high school (SMA). It is hoped that with the teacher of the physical education teacher can explain the concept and meaning of modification, mention what is modified and how to modify it, mention and explain several aspects of modification analysis so that learning can run more actively, effectively and efficiently. (Budi, 2021.)

Modification is something that must be able to be done and mastered by physical education teachers (H. Hakim, , H. Hakim, M. Ishak, & P. Sports Coaching Education Study, 2022) The word "modification" in the Great Dictionary of the Indonesian Language (KBBI) is interpreted as "change", "change". Which means a change from the old form to a new form so that it is more of Modification quality and valuable. Modification is defined as "change from the old state to the new state" These changes can be in the form of forms,

functions, ways of use, and benefits without completely eliminating their original characteristics (Susanto, 2023) The purpose of modification in physical education learning cited by Husdarta is so that (1) Students gain satisfaction in attending lessons, (2) Increase the likelihood of success in achievement, (3) Students can perform movement patterns correctly. (Akhmad Sobarna & Sumbra Hambali, 2018).

METHOD

This type of research :P research uses a quantitative approach with a type of correlational research.

Population : All participants of the Cimahi Archery Club 1 training

Data Collection Technique : A data collection technique by distributing questionnaires as an instrument in data collection.

Data analysis : By conducting Validity Tests and Reality Tests

RESULTS AND DISCUSSION

The results of data analysis were obtained from three main data sources, namely Observation of Bow Modification, Confidence Questionnaire, and Archery Score Test. The analysis was carried out to understand the distribution of data, the frequency of categories, and the relationships between variables in this study.

Table 1. Descriptive Statistics

Variabel	Count	Mean	Std Dev	Min	25%	Median	75%	Max
Number Yes (Observation)	7	4.29	0.76	3	4.0	4.0	5.0	5
Total Score (Confidence Questionnaire)	99	21.56	2.18	21	21.0	21.0	21.0	33
Total Score (Archery Score Test)	99	1.58	5.75	0	0.0	0.0	0.0	24

Frequency of Categories in Observation Data

The following is the frequency distribution of categories based on the "Description" column in the observation data:

Table 2. Frequency Observation data category

Remarks	Frequency
Modification is quite good	3
Good	3
Stable	1

Intervariable Correlation Matrix

The following is the correlation matrix between the main variables in the study:

Table 3. Correlation Matrix Between Variables

	Amount Yes	Total Confidence Score	Total Archery Test Score
Amount Yes	NaN	NaN	NaN
Total Confidence Score	NaN	1.0	-0.756
Total Archery Test Score	NaN	-0.756	1.0

The following graph shows the distribution of the confidence scores of the study participants:

From the graph, it can be seen that the majority of respondents obtained confidence scores that ranged from low to medium scores. This distribution shows a distribution that is skewed with the highest frequency peak being at a score of around 21. This indicates that most participants had relatively moderate to low levels of confidence in the context of the study.

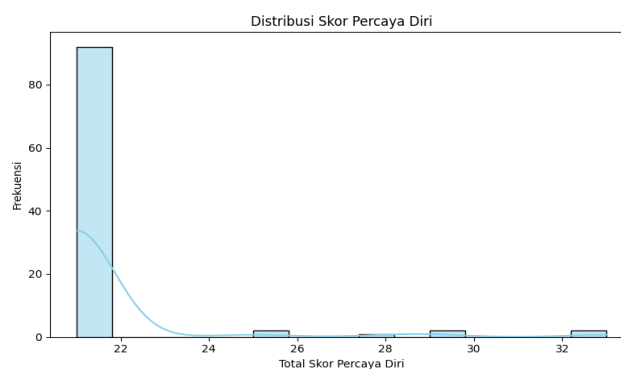


Figure 1. Confidence score distribution graph
Source : SPSS

The form of distribution also showed an uneven distribution of scores, with some respondents obtaining high scores as outliers. The smooth curve depicted on the graph serves as an estimate of the distribution probabilitas (density curve), Strengthen the interpretation of data distribution that has a skew tendency to the left.

Overall, this graph provides a clear visual picture of the distribution pattern of participants' confidence levels, which will be used to support statistical analysis and further discussion of the influence of variables in the study.

In this section, the results of the analysis requirements test will be discussed, which include a reliability test using Cronbach's Alpha, a normality test of total confidence score data and an archery score test using the Shapiro-Wilk test, as well as the results of the category frequency percentage analysis on bow modification observation data. The results of the reliability test showed that the confidence questionnaire instrument had a fairly good Cronbach's Alpha value, indicating adequate internal consistency for this study.

Reliability tests on the confidence questionnaire resulted in a good Cronbach's Alpha value (>0.70), indicating the internal consistency of the instrument. This is in line with previous research that emphasized the importance of high reliability to ensure the validity of psychological construct measurements, including confidence in sports (Saleh, R. T. & A. M. N., 2024). The normality test showed that the distribution of data for the total confidence score and the archery test score met the assumption of normality or did not correspond to the statistical results of the Shapiro-Wilk test, which is important for the determination of the right analysis method.

Analysis of the percentage of categories in the observational data provides an overview of the distribution of respondents in each category of arc modifications, which helps in the interpretation of the effectiveness of those modifications. This supports the hypothesis that physical modifications of tools contribute positively to psychological and performance aspects.

The confidence score distribution graph provides visualizations that clarify the distribution of the data and aid in understanding the characteristics of the respondents' data. However, this study has several limitations, both in terms of the number of samples, the scope of the training location, and the use of observation methods that can affect the generalization of results. In addition, limitations in confidence measurements using only one questionnaire instrument as well as samples limited to specific populations are also important notes for further research. Further research is recommended to expand the sample and measurement methods to improve the validity and reliability of the findings.

CONCLUSION

The results of descriptive statistical analysis showed that the average rate of the number of modifications approved by participants was quite high, which indicated that the modifications of the bow were well received by the participants.

The confidence scores recorded from the questionnaire showed considerable variation, which may reflect differences in the level of confidence of individuals in using the modified arc.

The results of a significant negative correlation between confidence scores and archery test scores showed that confidence levels were not always directly proportional to archery performance outcomes. This can be interpreted that even though participants feel confident, they do not necessarily score optimally on the archery test.

Observation categories such as "Moderately good" and "Good" showed that most of the modifications had a positive effect, but there were also some participants whose conditions were stable with no significant changes.

Based on the results of the analysis, it can be concluded that the modification of the bow and arrow carried out has a good reception by the participants and has an impact on several aspects of performance.

Keep in mind that the correlations found do not show cause-and-effect relationships but only associations, so further research is needed to understand the mechanisms underlying the relationship

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