



Impact Of Using Visual Feedback On Some Offensive Holds And Technical Performance For Greco-Roman Wrestlers

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Abstract

Abstract

Greco-Roman wrestling is a combat sport that demands a high level of precision in technical execution and ability to execute offensive holds efficiently and quickly. With continuous development of modern training methods, use of technological tools, particularly visual feedback, has become an effective method for improving athletes' motor and technical performance. This helps wrestlers identify and immediately correct their mistakes by reviewing recordings of their training sessions, thus enhancing their ability to refine their movements and achieve optimal performance. Research problem lies in fact that many Greco-Roman wrestlers suffer from weak technical execution of certain offensive holds due to their reliance on traditional training methods that lack accurate and immediate feedback. This highlights importance of introducing modern visual tools that contribute to developing offensive efficiency and raising technical level of wrestlers. The research aims to identify effect of using visual feedback in developing some offensive holds and improving technical performance of junior Greco-Roman wrestling players. The researchers used experimental method because it is suitable for nature of research by applying a training program based on video and visual analysis of performance within specific periods and comparing results before and after implementation. This indicates that use of visual means in training is one of modern methods effective in developing skill and technical aspects of wrestling players. The researchers recommend generalizing this method in training centers and clubs because of its positive effect on raising technical level and general performance of players

Keywords: Visual Feedback, Offensive Holds, Technical Performance, Greco-Roman, Wrestling.

Introduction

Wrestling is a combat sport that combines physical strength, intelligence, and precise technical skills. It represents a comprehensive test of a wrestler's capabilities on physical, mental, and psychological levels. Importance of wrestling lies in fact that it relies not only on muscular strength or physical fitness, but also on ability to plan quickly, make rapid decisions, and apply motor skills in changing and complex competitive situations. Among these skills, offensive holds stand out as a fundamental and decisive element in gaining upper hand over an opponent. Victory in many bouts depends on wrestler's proficiency in executing these holds with precision, speed, and perfect timing.

Continuous advancements in sports science and technology have compelled coaches and researchers to seek modern teaching and training methods that transcend traditional model based on verbal instruction or live demonstrations. Among these methods, visual feedback stands out. This modern form of feedback has proven effective in developing athletic skills, relying on video recordings, digital analysis, and slow-motion and live replays to monitor player performance and identify subtle technical errors that are difficult to observe with eye during live performance.

Scientific research in various fields of sports shown since offensive holds in wrestling are highly technically complex and require precision and perfect timing, relying on modern methods such as visual feedback can significantly contribute to improving wrestlers' performance. Hence, importance of this research lies in studying impact of using visual feedback on developing these holds and technical performance of Greco-Roman wrestlers.

Despite great importance of offensive holds in deciding fights and achieving victory, researchers have observed in practical and applied reality that a number of wrestlers suffer from a weakness in mastering precise technical aspects of these holds and a slowness in offensive response in competitive situations.

Traditional training often lacks modern methods that enable player to objectively observe performance and compare it with typical performance, leading to continuation and repetition of errors and failure to reach required level of technical performance. Based on this, research problem is represented in main question: Does use of visual feedback contribute to development of offensive holds and improve level of technical performance of wrestling players compared to traditional methods? This

main question branches into several sub-questions: What is effect of using visual feedback on speed and accuracy of executing offensive holds? What is effect of visual feedback on improving overall technical performance quality of wrestling players? Research objective is to identify impact of using visual feedback on some offensive holds and level of technical performance among junior wrestling players. Research Hypothesis is visual feedback has a positive effect on some offensive holds, performance, and technical performance level among junior Greco-Roman wrestling players.

Research Methodology

Methodology is "way in which researcher studies problem to discover truth" as there are many methodologies used in scientific research, and choice of any methodology depends on nature of study used in research. In light of research objectives and its nature, the researchers used experimental methodology with the design of a single experimental group with pre- and post-tests.

Research community was selected, which is junior Greco-Roman wrestling players in Wasit, represented by clubs (Damok, Wasit, Al-Muntazar), and their number is (23) players, with a weight of (45) kg. and ages of (15-17) years. The researchers selected research sample in a random way, which is represented by junior Greco-Roman wrestlers of Damok Sports Club, where number of individuals in sample was (8) wrestlers, and thus percentage of sample was (34.7%) of research community.

Homogeneity of research sample

To reduce impact of extraneous variables on research, the researchers extracted homogeneity for each of variables (height, weight, chronological age and training age) of research sample under study, as shown in Table (1).

Table 1. homogeneity of research sample is demonstrated by skewness coefficient test of variables in pre-test.

Variables	Measurement unit	Mean	St.d	Torsion coefficient
Height	cm.	143	0.035	0.419
Mass	Kg.	46.916	1.928	0.316
Chronological age	year	15.166	0.834	0.354
Training age	year	2.333	1.073	0.255

As can be seen from table 1. skewness coefficient was limited to (1±), which confirms homogeneity of control and experimental groups in previous variables.

Identifying tests

The researchers adopted a set of skill tests specific to basic offensive holds in Greco-Roman wrestling. All holds performed by wrestlers were filmed and presented to experts along with a rubric to measure accuracy of technical performance of each hold.

1. Throwing grip from behind test (porter):

Description: player stands in a ready position in front of opponent, then performs throw from behind back (carrier) twice, and best attempt is counted. Measurement: Degree of accuracy (recorded on a scale of 1–5).

2. behind back throwing grip by encircling head and arm test:

Description: player stands in a ready position facing opponent, then performs a behind- back throw grip by encircling head and arm twice, and best attempt is counted. Measurement: Degree of accuracy (recorded on a scale of 1–5).

3. over- chest throwing grip by encircling arm and torso to side testing:

Description: player stands in a ready position facing opponent, then performs over- chest throw grip test by encircling arm and torso to side twice, and best attempt is counted. Measurement: Degree of accuracy (recorded on a scale of 1–5).

Evaluation form

A rubric rating scale was prepared to comprehensively evaluate technical performance when executing offensive holds, based on opinions of a panel of experts (5 judges). Mean of scores of all judges is calculated.

Pilot Experiment

The researchers conducted a pilot study on a sample of (5) players who were not part of research sample at Damok Sports Club on Saturday, July 12, 2025, at 4:00 PM. The researchers used same tests that they would use in pre-tests, and purpose of this was knowing competence of support team in how to conduct tests and use equipment. knowing how long each test takes, as well as total time for all tests.

Pre-tests

The researchers conducted pre-tests on research group before start of training program to measure their technical performance and offensive grips. The researchers, along with their support staff, conducted pre-tests on research sample on Saturday, July 19, 2025, at 4:00 PM in wrestling hall at Damok Sports Club, providing instructions on how to perform tests and their sequence.

Main Experiment

The researchers conducted main experiment on 20/7/2025, corresponding to Sunday, where program was implemented for (8) weeks with (3) training units per week (24 session) on research group, as visual feedback was used immediately after recording performance, analyzing it and showing it to players.

Post-tests

The researchers conducted post-tests on 9/15/2025, which was a Monday after end of program, using same pre-tests and under same conditions.

Statistical methods

The researchers used Statistical Package for Social Sciences (SPSS) to process data through: mean, standard deviation to describe the data. Paired t-test to compare pre- and post-measurements of research group.

Results

Presentation results of pre- and post-tests of experimental group

Table 3. explains differences between pre-tests and post-tests of experimental group

Variables	Measurement unit	Pre-tests		Post-tests		Differences	Average Differences	(t) value Calculated	level of confidence	Type of indication
		Mean	St.d	Mean	St.d					
Spinning throw grip with both hands	Degree	21.5	0.066	26.5	0.121	0.243	0.120	3.962	0.009	Sig.
Throwing grip from above back by encircling head and holding arm		20	0.025	26	0.094	0.206	0.106	3.5.26	0.013	Sig.
Throwing grip from above chest to back and sideways, encircling torso and arm		21.66	0.075	27.33	0.053	0.335	0.095	5.571	0.000	Sig.

(*) tabulated t score = (1.860) under degrees of freedom (7), significant at significance level (0.05).

Discussion

Results showed that visual feedback gives players opportunity to see their performance as coach sees it, helping them correct mistakes more accurately and improve sequential movement of their catches. This aligns with theoretical studies in motor learning, where Schmidt & Lee (2019) confirmed that visual feedback improves assimilation of motor skills, especially in early learning stages such as junior category, thus enhancing achievement of goal of improving technical performance. Furthermore, use of Rubric form for expert evaluation helped to accurately measure technical development, as form established specific criteria for each catch, demonstrating effectiveness of intervention in achieving research objectives. Adoption of training methodology developed by coach also contributed to providing a structured framework for systematic application of visual feedback, which enhanced its impact on developing offensive catches. The study results confirmed that visual feedback directly achieves research objectives of improving technical accuracy and timing in offensive holds and reducing errors such as failure to lower hip or delayed rotation in some holds. This is attributed to enhancing kinesthetic awareness, as video helps link internal sensation with external image, developing kinesthetic sense, reducing repetitive errors, and increasing speed of learning and competitive performance.

This aligns with study by (Ibraheem, A., Khalaf, M., & Hussein, 2021) which demonstrated the effectiveness of using visual aids in sports training. Visual feedback enhanced players' visual-motor perception, allowing them to compare their performance with ideal model, thus increasing performance accuracy. It also increased players' awareness of their technical errors, making them more capable of self-learning and correction.

Conclusions

In light of research objectives, statistical results, and discussion, the researchers reached these conclusions visual feedback had a positive and effective impact on developing level of proficiency in offensive holds among wrestling players. Visual feedback method helped players significantly improve their overall technical performance in terms of accuracy, speed, fluidity, and timing. Live viewing and repetition after visual review enabled players to correct technical errors more quickly than relying solely on verbal guidance.

Recommendations

Based on preceding findings, the researchers recommend including visual feedback as an essential part of training programs for wrestlers in clubs and training centers. Train coaches on how to provide visual feedback correctly and concisely without lengthy comments, to avoid excessive cognitive load on players. Providing trainers with simple visual imaging and analysis tools (cameras, smartphones) for use in daily training. Integrate visual feedback with other training strategies (such as interactive video training or blended training) to develop technical performance to highest level.

References

Abdul Amir Khalaf and Hassan, Abdul Karim: The effect of video training on developing skill performance in judo. Journal of Babylon University for Human Sciences, 2018, 26(4).

Abdul Sattar Mohammed: Wrestling Skills and Training Methods. Baghdad, Ministry of Higher Education and Scientific Research – University of Baghdad, 2014.

Ahmed Abdel Fattah, Mohamed Hassan and Alawi: Foundations of Sports Training, Cairo, Arab Thought House 2002.

Ahmed Badr: Principles and Methods of Scientific Research, 4th ed., Kuwait, Publications Agency, 1978.

Bodacious, R., Yilmaz, I., & Taskin, C. The effect of visual feedback training on technical skills in judo. *Journal of Martial Arts* (2013), 2(1) .

Bodacious, R., Yilmaz, I., & Taskin, C. The effect of visual feedback training on technical skills in judo. *Journal of Martial Arts* (2013), 2(1) .

Fadhil Hamza Kazem: The effect of using multimedia in developing the technical performance of young wrestlers, Wasit University Journal of Sports Sciences, 2019, 7(1).

Gulbin, J., Crosser, M., Morley, E., & Eisenstein, J. An integrated framework for the optimization of sport and athletic development: The national coaching and officiating scheme. Australian Sports Commission (2001) .

Gulbin, J., Crosser, M., Morley, E., & Eisenstein, J. An integrated framework for the optimization of sport and athletic development: The national coaching and officiating scheme. Australian Sports Commission (2001) .

Hassan Kadhim Hussein: The effect of using visual aids in learning some offensive holds among young wrestlers. *Journal of Sports Science and Physical Education* - University of Baghdad, 2020, 12(2).

Hu, T., Zhang, Y., & Wang, Visual feedback in sports training: Enhancing motor learning and performance. *International Journal of Sports Science*, (2022). 10(3) .

Hu, T., Zhang, Y., & Wang, Visual feedback in sports training: Enhancing motor learning and performance. *International Journal of Sports Science*, (2022). 10(3).

Ibraheem, A., Khalaf, M., & Hussein, S. Effect of multimedia training on technical skills in wrestling. *Journal of Physical Education Studies*, (2021)15(4).

Ibraheem, A., Khalaf, M., & Hussein, S. Effect of multimedia training on technical skills in wrestling. *Journal of Physical Education Studies*, (2021)15(4).

Jalal Abdul Rahman Abdul Hamid: Feedback and its role in motor learning, Amman, Dar Al Manahij for Publishing and Distribution, 2017.

Magill, R. A., & Anderson, Motor learning and control: Concepts and applications (11th ed.). McGraw-Hill Education. (2017).

Magill, R. A., & Anderson, Motor learning and control: Concepts and applications (11th ed.). McGraw-Hill Education. (2017).

Mahmoud Abdel Moneim Saleh: The effect of immediate feedback on improving some basic skills in handball. *Journal of Educational and Psychological Studies* - University of Mosul, 2016, 41(3).

Mohamed Abdelkader Salama: The Science of Modern Sports Training, Cairo, Dar Al-Kitab, 2013.

Mohamed Hassan Abdel Rahman: Motor Learning and Development. Cairo: Dar Al-Fikr Al-Arabi, 2008.

Salama, M., Fathy, H., & Ali, S. The role of visual aids in enhancing motor learning among young athletes. Egyptian Journal of Physical Education, (2012). 9(3) .

Sami Mahmoud Ibrahim: Motor Learning and its Applications in the Sports Field. Alexandria, Modern University Office, 2015.

Schmidt, R. A., & Lee, T. D. Motor control and learning: A behavioral emphasis (6th ed.). Human Kinetics , (2019) .

Schmidt, R. A., & Lee, T. D. Motor control and learning: A behavioral emphasis (6th ed.). Human Kinetics , (2019) .

Appendix 1. Rubric form for evaluating technical performance is shown .

Assessment criteria: Weak (1) Acceptable (2) Average (3) Good (4) Excellent (5)
Comments

1. Positioning and readiness.
2. Entering and approaching competitor Entry.
3. Execution of basic movement.
4. Fluency and Balance.
5. Installation/Finishing Control & Finish.
6. Safety and error avoidance.

Grading system: from 1 (very poor) to 5 (excellent). Total (30 points)

Axis	Weak (1)	Acceptable (2)	Middle (3)	Good (4)	Excellent (5)
Positioning And preparation	He stands far from the situation Correct, loss of balance	Unstable position	Position close to correct With notes	Near-perfect position with Minor errors	Perfect position, balance and full readiness
Accessing rival	Random and slow entry	Uncoordinated entry	Acceptable entry, but Due to a delay in timing	Quick and organized entry With some errors	Perfect entry, timing Suitable and high speed
Executing Movement	Complete loss of steps Correct	Partial implementation of the movement	Average implementation with Clear mistakes	Correct execution percentage large	Complete and accurate implementation Without mistakes

Smoothness and balance	Constant loss of balance	Intermittent and inconsistent movement Smoothness	Moderate movement with Stops	semi-fluid movement With simple notes	Smooth movement, perfect balance
Installation and termination	Installation failed	Poor installation with loss control	Installation acceptable, but incomplete	Good installation with control clear	Perfect installation, control Complete
Safety and error avoidance	Serious errors that threaten Player Competitor Safety	Frequent mistakes	Some acceptable mistakes	A few mistakes, no Affects safety	Error-free, 100 % safe performance
Final grade total:					