Analytic approach to video analysis on skill performance of Pro Kabaddi matches

Asha D and Dr. Chandrappa N

DOI: https://doi.org/10.22271/journalofsport.2022.v7.i2b.2563

Abstract
Kabaddi is aptly known as the “Game of the Masses” due to its popularity, simple, easy to comprehend rules, and public appeal. The game calls for no sophisticated equipment what so ever, which makes it a very popular sport in the developing countries. The Pro Kabaddi League was first held in 2014; its founder, Charu Sharma, was influenced by the Indian Premier League as an influence on the overall formatting of the competition, noting that "mere sport works well [in India], but if you package it better, it works better." The PKL uses a franchise-based model; the league began with eight teams, each of which having paid fees of up to US$250,000 to join. There were doubts over whether the PKL would be successful, noting that there were many leagues attempting to emulate the IPL’s business model and success, and that unlike cricket, there were relatively fewer well-known players in Kabaddi.

Introduction
Kabaddi is basically an Indian game, which requires both skill and power, and combines the characteristics of wrestling and rugby. Kabaddi is aptly known as the “Game of the Masses” due to its popularity, simple, easy to comprehend rules, and public appeal. The game calls for no sophisticated equipment what so ever, which makes it a very popular sport in the developing countries. Though it is basically an outdoor sport played on clay court, of late the game is being played on synthetic surface indoors with great success. The duration of the game is 45 minutes for men & junior boys with a 5 minute break in between for the teams to change sides. In the case of women & sub junior boys, the duration is 35 minutes with a 5 minute break in between.

The Pro Kabaddi League was first held in 2014; its founder, Charu Sharma, was influenced by the popularity of the Kabaddi tournament at the 2006 Asian Games, which utilized an indoor version of the game played on a court. Sharma cited the Indian Premier League as an influence on the overall formatting of the competition, noting that "mere sport works well [in India], but if you package it better, it works better." The PKL uses a franchise-based model; the league began with eight teams, each of which having paid fees of up to US$250,000 to join. There were doubts over whether the PKL would be successful, noting that there were many leagues attempting to emulate the IPL’s business model and success, and that unlike cricket, there were relatively fewer well-known players in Kabaddi.
However, it was also noted that Kabaddi was widely played in grassroots community settings, and could thus attract a wide variety of rural and metropolitan viewers for advertisers to target if the league gained significant traction. The inaugural season was seen by a total of 435 million viewers, placing it just behind the total-season viewership of the 2014 Indian Premier League season, while the inaugural championship was seen by 86.4 million viewers. Star Sports, the PKL’s broadcaster, subsequently announced in 2015 that it would acquire a 74% stake in the league’s parent company Marshal Sports. For the 2017 season, the PKL added four new teams, and changed its format to split the teams into two divisions known as “zones.”

Statement of the Problem
The purpose of the study was to find out the “Video Analysis on Skill Performance of Selected Pro Kabaddi Matches”.

Objectives of the Study
1. The study was aimed to Video Analysis among the Pro Kabaddi National Players of various teams of India.
2. The study was aimed to Video Analysis Variables among the offensive and Defensive Skills Performance of various Pro Kabaddi teams of India.

Hypothesis
1. It was hypothesis that there is significant difference in the Video analysis on skill Performance of Selected Pro Kabaddi Matches.
2. It was hypothesis that there is significant difference in the offensive and defensive Skills Performance among Pro Kabaddi players of various teams.

Limitation of the Study
Certain factors like daily routine, life style, diet, socio-economic status, initial fitness level and the training age of the subjects, which might have influenced their Video Analysis on skill Performance Selection of variables Pertaining to the Video analysis of skill Performance of Selected Pro Kabaddi Matches.

Independent Variables
Offensive Skills
Hand Touch, Toe Touch, Squat thrust, Dubki. Lain Jump, Side Kick, Rolling. Back Kick and Bonus (offensive skills) and

Defensive skills
Are Tackle, Block, Chain Tackle, Waist Hold, Ankle Hold, and Thigh hold, Diving Ankle Hold and Dash.

Dependent Variable
Pro Kabaddi season wise Selected Matches Skill Performance.

Seasons one to Sixth Seasons Selected teams
U Mumba, Jaipur Pink Panthers, Bengaluru Bulls, Puneri Paltan, Dabang Delhi, Telugu Titans, Bengal Warriors, Patna Pirates, Haryana Steelers, U.P. Yodha, Tamil Thalaivas and Gujarat Fortune giants teams.

Collection of data
The captured video was uploaded in a desktop computer to

Concerning the use of video feedback (VFB) to enhance motor learning has been undertaken under strictly controlled experimental conditions.

Dr. C. Durai (2016) the purpose of the study was to find out the effect of visual feedback on volleyball skills among physical education students. To achieve the purpose of the study, fifteen (n=15) men volleyball players from various department of Manonmaniam Sundaranar university, Tirunelveli, Tamil Nadu, Carlos Merino Campos, Héctor Del Castillo Fernández (2016) this article sets out to conduct a systematic review of the current literature on active video games as potential educational tools for physical education or physical activity. To begin with, research on active video games for educational and physical purposes has been examined with the purpose of verifying improvement of attitudes, intellectual skills, knowledge, motor skills and physical properties associated with physical activity and physical education.

Methodology
Selection of subjects
The purpose of the study was to find out the “Video Analysis on Skill Performance of Selected Pro Kabaddi Matches”. One forty four National Pro Kabaddi male players were selected as subject for this study the subjects were selected from U Mumba, Jaipur Pink Panthers, Bengaluru Bulls, Puneri Paltan, Dabang Delhi, Telugu Titans, Bengal Warriors, Patna Pirates, Haryana Steelers, U.P. Yodha, Tamil Thalaivas and Gujarat Fortune giants teams. The age level of the subjects ranged from 20 to 40 years.

Selection of variables
The research scholar went through the scientific literature pertaining to the Video analysis of skill Performance of Selected Pro Kabaddi Matches different sources and also consulted the experts in these areas. Along with the said literature and expert opinion, the administrative feasibility in terms of availability of instruments and expertise measuring and recording of data was also given due consideration while selecting Kabaddi offensive and Defensive Skills and season wise matches Performance, Hence, the following variables were selected for this study:

Independent Variables
Offensive Skills
Hand Touch, Toe Touch, Squat thrust, Dubki. Lain Jump, Side Kick, Rolling. Back Kick and Bonus (offensive skills) and

Defensive skills
Are Tackle, Block, Chain Tackle, Waist Hold, Ankle Hold, and Thigh hold, Diving Ankle Hold and Dash.

Dependent Variable
Pro Kabaddi season wise Selected Matches Skill Performance.

Seasons one to Sixth Seasons Selected teams
U Mumba, Jaipur Pink Panthers, Bengaluru Bulls, PuneriPaltan, Dabang Delhi, Telugu Titans, Bengal Warriors, Patna Pirates, Haryana Steelers, U.P.Yodha, Tamil Thalaivas and Gujarat Fortune giants.

Collection of data
The captured video was uploaded in a desktop computer to

Review of related literature
Andrew Hutcheon (2021) an analysis of the impact of technology-enhanced video feedback and peer evaluation on gymnastic performance in a MYP IB Physical Education class. A 5-step inquiry action research framework was employed;
Vandana Arak (2020) Game Kabaddi is played with seven players inside the court. Player, who is called as a raider is supposed to enterin opposite team’s area to tag them and get the point, and at the same time, opposite team players try to stop or hold the player within their boundary to get the point. Changes in the rules of the kabaddi game in Pro Kabaddi League had increased the popularity of the game also;
F. Potdevina, O. Vorsb, A. Huchez, M. Lamoura, K. Davids d and C. Schnitzler (2018) much of the existing research
measure the selected variables. The desktop computer with Windows 8 OS, i5 processor, 2 GB RAM and 500 GB hard disk was used to analyze the data. The KINOVEA software version 0.8.15 was installed and the captured videos were analyzed by frame using tools available in the software.

**Administration Procedure**

Subjective rating of each team player is performance involves a panel of two expert Coaches and Research Scholar in the game of Kabaddi. Evaluated the player’s ability for whole match Scores. The average of the two expert Coaches and Research Scholar rating was taken as a score. The number of total score from each team and each selected matches Kabaddi Offensive and Defensive Skills Uses total scores was measured.

**Statistical Technique**

To Analysis the data of selected Video Analysis on Skill Performance of Selected National Pro Kabaddi Matches among National Pro Kabaddi Players, Descriptive statistics to find out the mean and standard deviation, Frequency and Percentages was applied. The Statistical Package for Social Sciences (SPSS, Version 16.0. for Windows XP) was used to analyze the data. An alpha level of 0.05 was used to determine statistical significance.

**Table 1:** Shows in offensive skills and defensive skills

| Offensive Skills | M1 | M2 | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | Mean Score | Total Score | Standard Deviation |
|------------------|----|----|----|----|----|----|----|----|----|-----|------------|--------------|-------------------|
| Hand Touch       | 13 | 15 | 13 | 12 | 10 | 9  | 9  | 12 | 10 | 10  | 11.3       | 113          | 2.00              |
| Toe Touch        | 11 | 9  | 7  | 9  | 8  | 7  | 10 | 10 | 7  | 8   | 8.6        | 86           | 1.42              |
| Squat thrust     | 10 | 10 | 9  | 11 | 11 | 9  | 9  | 9  | 6  | 10  | 9.4        | 94           | 1.42              |
| Dubki            | 2  | 1  | 3  | 2  | 2  | 2  | 3  | 3  | 2  | 2   | 2.2        | 22           | 0.63              |
| Lain Jump        | 1  | 2  | 1  | 2  | 1  | 2  | 1  | 2  | 1  | 2   | 1.7        | 17           | 0.67              |
| side Kick        | 5  | 8  | 10 | 7  | 11 | 5  | 5  | 7  | 4  | 8   | 7.4        | 70           | 2.30              |
| Roll Kick        | 8  | 7  | 8  | 6  | 8  | 6  | 8  | 9  | 8  | 7   | 7.4        | 74           | 1.07              |
| Back Kick        | 5  | 4  | 4  | 6  | 7  | 6  | 5  | 4  | 6  | 5.4 | 54         | 54           | 1.17              |
| Bonus            | 11 | 9  | 10 | 8  | 10 | 11 | 9  | 8  | 11 | 9.6 | 96         | 96           | 1.17              |

| Defensive Skills | M1 | M2 | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | Mean Score | Total Score | Standard Deviation |
|------------------|----|----|----|----|----|----|----|----|----|-----|------------|--------------|-------------------|
| Hold             | 10 | 9  | 10 | 11 | 10 | 8  | 9  | 9  | 8  | 9.5 | 95         | 95           | 1.08              |
| Block            | 9  | 7  | 7  | 7  | 9  | 9  | 8  | 9  | 6  | 7.9 | 79         | 79           | 1.10              |
| Chain Hold       | 11 | 14 | 11 | 13 | 11 | 8  | 10 | 8  | 10 | 10.1 | 101        | 101         | 2.33              |
| Waist Hold       | 6  | 6  | 6  | 6  | 8  | 6  | 5  | 7  | 6  | 6.2 | 62         | 62           | 0.91              |
| Ankle Hold       | 14 | 13 | 9  | 13 | 12 | 11 | 9  | 10 | 10 | 10.9 | 109        | 109         | 2.02              |
| Thigh hold       | 8  | 5  | 7  | 5  | 6  | 7  | 6  | 10 | 4  | 6.4 | 64         | 64           | 1.71              |
| Diving Ankle Hold| 2  | 4  | 1  | 2  | 2  | 1  | 3  | 1  | 2  | 2.1 | 21         | 21           | 0.99              |
| Dash             | 9  | 14 | 10 | 12 | 9  | 9  | 8  | 9  | 7  | 9.4 | 94         | 94           | 2.17              |

**Fig 1:** Offensive skills  
**Fig 2:** Defensive skills
Conclusions
Kabaddi offensive and Defensive skills variables namely Hand Touch, Toe Touch, Squat thrust, Dubki. Lain Jump, Side Kick, Rolling. Back Kick and Bonus (offensive skills) and Defensive skills are Tackling, Block, Chain Tackle, Waist Hold, Ankle Hold, and Thigh hold, Diving Ankle Hold and Dash Pro Kabaddi season wise matches Skills Performance. Offensive skills performances are more uses in all Season matches in comparison with Defensive Skills Performances.

References
1. Akila S, Chinnadurai D. Traditional Kabaddi Vs Techno kabaddi: International Journal of Physical Education, fitness and sports. 2017;6(2):58-60.
2. Acampora B. A Comparison of personality Traits among Three Levels of Female Field Hockey Competitors. Unpublished Master’s Thesis, Deptt. Of Physical Education, San Jose State College, San Jose, California, 1971.
3. Biswas M, Bauri R, Halder S. A Study on Personality Profile of Elite Kabaddi Players. Journal of Humanities and Social Science. 2015;20(10):08-12.
4. Chandran S. Pro Kabaddi League 2017 Season 5: How one district in Haryana, 2017, 17.
5. Clarke, Harrison H, Clarke, David H. Advanced Statistics and Research Process in Physical Education. Englewood Cliffs: New Jersey: Prentice Hall Inc, 1970.
6. De AK, Dasgupta PK, Panda BK, Bhattacharya AK. Physical efficiency tests on Indian male "Kabaddi" inter-university players. Br J Sports Med. 1982;16(1):33-36.
7. Gupta SP. Statistical Methods. New Delhi: Sultan Chand and Sons Publishers, 1987.
8. Hindustan Times. Team’s eye on-field, financial gains in Pro Kabaddi League season 2, 2015, July 18. Retrieved August 23, 2017, from http://www.hindustantimes.com/othersports/teams-eye-on-field-financial-gains-in-Pro-Kabaddi-league-season-2/story5Gl1NkF7xG2ZKb76I76.html
9. Jadhav KM. Role of Yoga in Kabaddi Sport. Golden Research Thoughts. 2011;1(II).
10. Kamlesh ML. Psychology in Physical Education and Sports. New Delhi: Metropolitan Book Company, 1983.