

Construction of Rating Scales for Hitting Dribbling and Scooping in Hockey

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Abstract

The purpose of the study was to construct rating scales for hitting, dribbling and scooping in hockey. The subjects were sixty four male hockey players of Devi Ahilya University .Indore who participated in Intercollegiate Hockey Tournament.

The criterion measures were the average of the playing ability scores of hockey payers assigned independently by three hockey experts, and the scores obtained from the Henry Freidel Field Hockey Test. Data was collected on all the sixty four hockey players who participated in intercollegiate tournament by administering the Henry Friedel Field hockey test.

Obtained data on rating scales was the average of scores assigned independently by three hockey experts who rated the players in selected skills i.e hitting, dribbling and scooping.

INTRODUCTION

Rating scales are one of the best methods for teachers to use in observations of performances. They allow the teacher of focus on the more important aspects of the traits being measured. The rating scale itself is actually a tool or aid to be used by the teacher in evaluating the performance of students. This scale helps the instructor to identify the degree or amount of the trait that the student possesses.

A rating scale reflects the careful planning procedure required to give reliability and objectivity to subjective evaluation. The scale lists the traits to be evaluated, reflects the teacher determined importance of each trait, describes the performance standards and provides a format for immediate recorded scoring.

The rating scale can include effort, improvement and cooperation in addition to achievement in skills and understanding without having to transform them into a single grade.

Hockey is a skilful game requiring the ability to master a ball with a stick. Physical strength, particularly in the forearms and wrists plays a part: speed of movement over short distance, fitness is all contributory factors to success.

The proper technique of playing hockey would be one that is derived from the reality of the game. It would be one that takes into account of all the demands. It would be one that is based upon: positive attack, that as many goals be scored as possible; stick work, that the stick be exploited to its full potential; the use of mind and body in a manner which facilitates stick work; a clear definition of the function of each player and the possible interactions between the players, that the players be able to function as a team; a full understanding of the right spirit, that the game become an art, and therefore, real entertainment.

Skill denotes the level of effectiveness with which a movement or motor action can be done. Skill is defined as automatization of a motor action.

Technique is defined as the motor procedure for tackling a motor task. The technique is always goal oriented.

Style is individual expression of technique in motor action. No two sportsmen are alike in different factors which determine motor action. Therefore each sportsman,

because of his peculiar psychic, physical and biological capacities realises the technique in order to tackle a definite task but the motor action of each will be different from others.

The player has a hockey stick to play with, to score goals with his ability to score and to prevent the other team from scoring depends on his ability to use the stick. Potentially, there is a great deal that can be done with the stick. It can be used to hit the ball hard or soft, as the player chooses. It can be used to stop the ball. It can be used to push the ball and to scoop it. It can be used to keep the ball within striking distance while moving forward and even to push it from side to side while doing that-to dribble. And it can be used for tackling, that is, for taking the ball away from the opposing player while he is standing or moving with the ball, The better the manipulation of the stick, standard of hockey, and the greater the number of goals which are scored.

Rating Scale- Rating scales are useful for evaluating qualities that cannot be measured objectively or at least not easily and effectively.

Hit- The hit is a strong hard stroke used for passing and shooting.

Dribble- This is a series of strokes used to carry the ball down the field.

Scoop- The stroke is made deliberately to lift the ball.

Bill Lanmdin, Indiana University suggested a badminton rating scale. The four areas of badminton playing ability may all be rated during competition. The areas of badminton playing ability were; serve strokes, strategy, and footwork and position. However the first two areas may be rated in a non competitive situation, if so desired, by asking the student to demonstrate the various serves and strokes. Each subarea was scored on a 3-2-1 basis.

Bobrich prepared badminton observational rating scale to measure total skill development as a student participates in a regular game. The tool was developed using two classes of 67 girls enrolled in a high school beginning badminton course. The reliability was estimated on attest-retest basis using three qualified judges. Both Pearsons 'r' and analysis of variance techniques were used to determine the reliability of the testing tool. The coefficients ranged from 0.77 to 0.87 for section I of the observational rating scale and from 0.60 to 0.83 for section II.

Scott constructed a test to measure the accuracy of the badminton long service. A validity of 0.54 was reported between the service scores and the subjective rating made by three judges during play. Reliability estimates with college women were 0.7 and 0.68. The test was administered on a standard court with scoring zones marked. A restraining rope at a height of eight feet was placed parallel to and fourteen feet from the net. The student's score was the sum of twenty serves.

A sample volley ball rating scale was designed for each the three components of volleyball playing ability with a point value of 15 scored on 5-4-3-2-1 basis. The three components of volleyball, playing ability serve, setting or spiking and general team play.

PROCEDURE:

All the sixty four hockey players from different colleges of Devi Ahilya University, Indore, who participated in intercollegiate tournament held at Daly College, Indore hockey grounds organised by Government Arts and Commerce College, Indore were selected to serve as subjects for this study. The age of the

subjects ranged from 17 to 25 years. The details of the subjects on which data were collected have been given in Table 1.

Table-1
DETAILS OF THE HOCKEY PLAYERS FROM DIFFERENT COLLEGES

S.No	Name of the College	No. of Players	No. of University players
1.	University Teaching Department , Indore	16	7
2.	Indore Christian College, Indore	16	7
3.	Government Arts and Commerce College Indore	16	-
4.	Islamia Karimia College , Indore	16	5
	total	64	19

The criterion measures were: Average of the playing ability scores of hockey players assigned independently by three hockey experts.

Score obtained in Henry Freiedl Field Hockey test.

On the basis of opinion, overall empirical views of experts and after carefully examining the related literature all the three skills i.e hitting, dribbling and scooping were ascertained for the construction of rating scales were ascertained for the construction of rating scales.

The skills (hitting, dribbling and scooping) for which rating scales have been prepared were further subdivided into five components/subheadings, in consultations with experts including Physical Education lectures, selectors, officials and the N.I.S trained coaches. Each of the components was scored on 5-4-3-2-1 basis. The details of each subheadings/components were prepared and then the rating scales were distributed to the experts for further comments, views and suggestions for improvement in the scales. The experts were consulted personally by the research scholar, after modifying the rating scales based on their views and suggestions before finally preparing the rating scales.

Each of the components of hitting, dribbling and scooping in hockey were scored on 5-4-3-2-1 basis.

5 points: Exceptional ability, near perfect for the age and sex of the participant.

4 points: Above average ability, not perfect but quite skilful for the age and sex of the participant.

3 points: Average ability, typical for the age and sex of the participant.

2 points: Below average ability, characterized by the more mistakes than is typical performance for the age and sex of the participant.

1 point: Inferior ability, far below typical performance for the age and sex of the participant.

All the sixty four male hockey players who participated in intercollegiate Hockey tournament were selected to serve as subjects for the collection of data.

Data using the prepared rating scale was obtained independently from three hockey experts on all the subjects. The subjects were asked to perform the three skills i.e hitting, dribbling and scooping in a non competitive situation. The judges were given five point rating scales to evaluate the three skills (hitting, dribbling and scooping) in hockey.

Data on playing ability detailed guidelines assigned independently by three hockey experts was collected during the league matches of Intercollegiate Competition. Further data was collected by administering the Henry-Friedel Field Hockey test on all the subjects. The coaches of the teams were consulted at the personal level to conduct the test on Hockey players. All the coaches were made full conversant with study. The researcher approached each player after giving proper and timely information before the tests were conducted. Before administering the tests the subjects were briefed about the purpose of the study the details of the tests were explained to them. They were also given sufficient number of trials to enable them to become familiar with the test. To ensure uniform testing conditions, the subjects were tested in the morning and evening sessions.

The subjects were directed to come in proper playing kit during the performance of the tests. No special motivational techniques were used to enhance their performance. But the nature of the test was such that each subject was so enthusiastic that he performed tests in the spirit of competition to surpass his counterpart and know his status of specific skills. The subjects gave maximum cooperation throughout the test administration.

The reliability of the rating scales was established by test-retest method employing product moment method of correlation on twenty randomly selected subjects.

The objectivity of the rating scales was established by correlating product moment method (each test item scores judged by two experts who noted the performance of the subjects independently).

Validity of each rating scale was established by product moment method of correlation i.e. correlating average of each rating scale scores with the average of hockey playing ability scores assigned independently by three hockey experts.

In order to check the effectiveness of the rating scales, the average rating scale scores and the Henry-Friedel Hockey Test scores were correlated by using Pearson's product moment of correlation.)

RESULTS:

For scientific authenticity of the rating scales researcher established the objectivity and validity of the test item i.e. hitting, dribbling and scooping.

The researcher obtained the fresh data on 20 hockey players with the help of rating scales and computed objectivity of the test items. The average of the scores assigned independently by three hockey experts who noted the performance of the subjects was correlated in order to obtain an objectivity coefficient. The objectivity coefficient of the rating scales have been presented in table-1

Table-1
OBJECTIVITY OF THE RATING SCALE

S.No	Selected Skills	'r'
1.	Hitting	0.743*
2.	Dribbling	0.726*
3.	Scooping	0.618*

*significant at 0.05 level of confidence

$$r(18) = 0.444$$

$$= 0.05$$

It can be noted from table 1 that the objectivity values ranged from 0.618 to 0.743 and are significant at 0.05 level of confidence because required values needed for significance at 0.05 level of confidence is 0.444. The obtained significance values show that the direction for the administration of the rating scales were specific and clear for performance as well as evaluation.

In order to find out the validity of the rating scales for hitting, dribbling and scooping in hockey correlation were obtained between playing ability scores and the rating scale scores by employing 64 subjects. The validity coefficients of the rating scales for all the three selected skills appear in table 2.

Table-2
CORRELATION BETWEEN HOCKEY PLAYING ABILITY SCORES AND RATINGSCALE SCORES

S.No.	Selected Skills	'r'
1.	Hitting	0.861*
2.	Dribbling	0.841*
3.	Scooping	0.832*

*significant at 0.05 level of confidence

$$r(62) = 0.250$$

$$= 0.05$$

It can be observed from table- 2 that the obtained values of correlation between each of the rating scale scores for selected skills and hockey playing ability ranged from 0.832 to 0.861. These values are significant at 0.05 level of confidence because the required values needed for 0.05 level of confidence is 0.250.

Validity of the selected skills was also established by correlating the rating scale scores with the scores obtained as a result of administration of the Henry Friedel Field Hockey Test. This appears in Table-3, 4, 5.

Table-3
CORRELATION BETWEEN RATING SCALE SCORES AND HENRY FRIEDEL FIELD HOCKEY (SPEED) TEST SCORES

S.No	Item Correlated	'r'
1.	Hitting	-0.779*
2.	Dribbling	-0.759*
3.	Scooping	-0.743*

*significant at 0.05 level of confidence

$$r_{(62)} = 0.250 \\ = 0.05$$

It can be observed from table-3 that the obtained values of correlation between each of the rating scale scores for selected skills and Henry Friedel Field Hockey Test scores, ranged from -0.743 to -0.779. These values are significant at 0.05 level of confidence because the required value needed for 0.05 level of confidence is 0.250.

Table-4
CORRELATION BETWEEN RATING SCALE SCORES AND HENERY FRIEDEL FIELD HOCKEY (ACCURACY) TEST SCORES

S.No.	Item Correlated	'r'
1.	Hitting	0.804*
2.	Dribbling	0.785*
3.	Scooping	0.770*

*Significance at 0.05 level of confidence

$$r_{(62)} = 0.250 \\ = 0.05$$

It can be observed from table-4 that the obtained values of correlation between each of the rating scale scores for selected skills and Henry Friedel field Hockey Test Scores, ranged from 0.770 to 0.804. These values are significant at 0.05 level of confidence is 0.250.

Table-5
CORRELATION BETWEEN RATING SCALE SCORES AND HENERY FRIEDEL FIELD HOCKEY (COMPOSITE) SCORES

S.No.	Item Correlated	'r'
1.	Hitting	0.719*
2.	Dribbling	0.690*
3.	Scooping	0.673*

*Significant at 0.05 level of confidence

$$r_{(62)} = 0.250 \\ = 0.05$$

It can be observed from table-5 that the obtained values of correlation between each of the rating scale scores for selected skills and Henry Friedel Field Hockey Test scores, ranged from 0.673 to 0.719. These values are significant at 0.05 level of confidence because the required value needed for 0.05 level of confidence is 0.250.

CONCLUSION

Within the limitations of the present study it may be concluded that:

1. The prepared rating scales are significantly related to the Henry Friedel field Hockey Test scores.
2. The prepared rating scales are significantly related to the hockey playing ability scores.

3. The developed rating scales meet the criterion of scientific authenticity i.e. the rating scales were reliable, objective and valid.

RECOMMENDATION

In the light of the conclusions drawn, the following recommendations were made:

1. The physical education teacher or coaches of hockey may use the constructed rating scales for the observation of the hockey players.
2. The rating scales for evaluating the qualitative aspects of other fundamental skills of the hockey should also be prepared.
3. The rating scales for fundamental skills in other games/sports may be constructed.
4. The hockey experts may use the prepared rating scales in detecting the faults of the players and correcting them for the improvement in their skills.

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