

**Examining Football Skills between the Boy Students of Community and
Institutional Schools in Tarakeshwor Municipality Kathmandu**

**A Thesis Submitted to the Department of Physical Education in Partial
Fulfillment for Master of Education in Physical Education**

**Submitted by
Som Bahadur Darai**

**Central Department of Education
Faculty of Education
Tribhuvan University
Kirtipur, Kathmandu**

September, 2023

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Declaration

I hereby, declare that to the best of my knowledge this thesis is my original work. No part of it was earlier submitted for the candidature of research degree to any university, college or educational institution. Whatever subject matter I have presented in this thesis report belongs to my own work and has not been copied from the past thesis.

Date: 1st September, 2023

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Som Bahadur Darai

Recommendation Letter

This thesis entitled "**Examining Football Skills between the Boy Students of Community and Institutional Schools in Tarakeshwor Municipality Kathmandu**" is an independent work of Mr. Som Bahadur Darai, completed under my supervision.

It has prepared for the requirement of the partial fulfillment of a Master's Degree in Physical Education. To the best of my knowledge, the study is original and carries useful information in the field of football skills.

Therefore, I recommend this thesis to the thesis evaluation committee for final evaluation and viva-voce.

Date: 4th September, 2023

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Certification Page

The thesis entitled "**Examining Football Skills between the Boy Students of Community and Institutional Schools in Tarakeshwor Municipality Kathmandu**" was prepared and submitted by Som Bahadur Darai for partial fulfillment for the requirement of Master's Degree in Physical Education has been approved.

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Abstract

The study entitled "**Examining Football Skills between the Boy Students of Community and Institutional Schools in Tarakeswor Municipality Kathmandu.**" The main objective of this study was to compare the football skills of Community and Institutional schools boy students of Tarakeswor Municipality Kathmandu.

In methodology, comparative cum descriptive research design with quantitative nature was applied for the study. In this study, 50 students studying community and 50 institutional, altogether 100 school boy students were taken as sample size for the study by using simple random sampling method. The primary data were taken through 100 respondents of school boy students. Three readymade test items i.e. Mc-Donald Soccer's Test, "8" Dribbling Test and Lobbed Ball Test were used to collect the required data for this research work.

After comparing of test scores, statistical treatments such as Mean, SD, CV and Z-test were applied and calculated. The researcher found significance difference in Mc-Donald Soccer's Test and "8" Dribbling Test, scores of Institutional boy students was found better than Community boy students. While comparing each test items separately, significant difference was found in these test items. But, in Lobbed Ball Test, the researcher found that, there is no significance difference between two respondents groups at .05 significance level in Z-test.

While comparing the composite scores of the two respondent groups, the researcher conclude that there is significant difference in overall football skills between Community and Institutional school boy students. This means, the Institutional respondent groups have more involved in different level of football games than counterparts.

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Chapter 1. Introduction

Background of the Study

Physical education is a basic need of every student. Students need regular and vigorous physical activity to develop to their fullest potential and to release tension from the rigors of not only the academic setting, but also daily life as well (Bucher & Krotee, 2001, p. 93).

Physical education includes different types of games and sports which are the backbone of human development. Games and sports help to maintain a healthy body, sound mind, balanced emotion, good posture and active performance. Games and sports are not only the means of fun and physical exercise but also a gateway to make the students and players away from negative thoughts. Games and sports help to be co-operative to develop leadership and keep a good relation in society. In the broader sense, the word 'sports' not only refers to play games and sport commercially but it refers to the happiness and joyful moment of human civilization (Sing, Bains, Gaill, & Brar, 2012 as cited by Bhatt, 2016, p. 1).

Physical education is an important part of general education and educational process that has as its aim for the improvement of human performance and enhancement of human development through the medium of physical activities and sport. It helps the people to adjust in society. It makes human life more creative and productive. The main objective of physical education is to aspects. It has helped to keep sound mind, human performance, balanced emotion, good posture and healthier life. It is based on physical activities and sports. Practice of physical activities not only develops the sports skill of student but also develops their discipline, good moral, proper use of leisure time. It is not only concerned with the development of knowledge and attitudes. Physical education helps to conductive lifelong learning and life span participation in game and sports field. (Bucher, 1992, as cited by Chiluwal, 2019, p. 1).

From above literature it is known that physical education provides a natural platform and valuable opportunities to develop self-management skills, social and cooperative skills and build character. It serves to complement other educational areas in promoting the desired outcomes of education. In particular, PE helps to cultivate healthy habits, teamwork, resilience and resolve.

Football, also called association football or soccer, game in which two teams of 11 players, using any part of their bodies except their hands and arms, try to maneuver the ball into the opposing team's goal. Only the goalkeeper is permitted to handle the ball and may do so only within the penalty area surrounding the goal. The team that scores more goals wins.

Football is a fast-paced, strategy game played by men, women and kids. It professional league have gained millions of fans around the world. It is considered as a major sport that is well-known and widely played in almost all regions of the world.

"Skill of the individual is to act purposefully, to think rationally and to deal effectively with environment." Physical education is a behavioral, practical and scientific subject which is used in our daily life. This education is skill developing education. It is adopted in many theoretical and practical subject matters, which are to be used in the curriculum of physical education and emphasized to develop an individual's physical, mental, social and emotional aspects. It concerns with physiology, sociology and psychology that develops their aspects of individual skills. (Freeman, 1977, as cited by Khadka, 2019, p. 2).

Important football skills to master include ball control, passing, dribbling, heading, shooting, goalkeeping, fainting, tackling and defending tactical awareness involves the ability to know your role and have positional awareness on the field and possessing the ability to make good decisions.

Skill tests reflect the ability of the pupil, which is performed in a specific sport. Sport skills help for classifying, measuring, determining and marking skill tests. The teacher permits the group or the young stars immediately during the first meeting of class. Sports skills develop the neuromuscular ability of the student. The total physical education program is developing to the acquisition of sport skills. Sport skills test may

be used to measure achievement in particular sport by practice, individual progress for diagnostic purpose by competition, interpreting the program and it should serve as excellent motivational devices. (AIU, 1987, as cited by Magar, 2019, p. 3).

Sports skill test is the most important part of the physical education, we cannot find out the performance level of players or students without skill test. If the players are weak in the above qualities they can't perform their skills perfectly. So, whether physical education teachers, trainers and coaches are going to select the players for any games and sports, she/he must understand the present status of their physical performance and game skills. So, the researcher has done this study for Football skills test of the boy students in Tarakeshwor Municipality, Kathmandu.

Statement of the Problem

There is no doubt that population of many develop countries is by leaps and bounds. Being a developing country most of the population in Nepal is under poverty line. It is facing many problems such as unemployment, political instability and others. Many polices were made for improvisation but there not satisfactory implication. Government has made different sports related policies to improve sports status but such policies couldn't address the inherent facts of sports and embrace level of players, coach and manager's performance.

In the context of Nepal, football was started from regime. At that time, upper class Rana family, Royal family and upper class military coach were involved in football game. Such consequence could not exist at all. As a result regime declined in 2007 B.S. After that common people got chance to play football. Nepal football organization was established in 2008 B.S. It has launched various programs like, Shahid Smarak League, Tribhuvan Challenge Shield Knock-out, Nara Samsher Trophy and so on. Nepal got membership of FIFA in 2028 B.S. After that in 2030 B.S., Nepal Football Organization changed its name as Akhil Nepal Football Association.

Each year different competition of football games are being held in local, regional and national level so different players and students are found to be attracted towards football game. But, the lack of play ground for playing football in Community schools in Tarakeshwor Municipality. Some students are not provided

with equal chance to play football game, there is less information about boy students of football skills in secondary level's schools of Tarakeshwor Municipality, how the football games are conducted by Community and Institutional schools? Whether the games are competitive or not? So, this situation encouraged the researcher to study about the skill of football which is existing at school level boys of Tarakeshwor Municipality Kathmandu. Therefore, the researcher selected the topic "Examining Football Skills between the Boy Students of Community and Institutional School of Tarakeshwor Municipality Kathmandu."

Rationale of the Study

This significance of the study was as given below:

- i. This study would be helpful to provide feedback on football skills test for teacher, coaches, curriculum planners, physical experts to select the suitable players for football game.
- ii. This study would be useful to provide the actual status of football skills among the boy students of secondary level.
- iii. This study would be helpful to the trainers to develop the training program in football game.
- iv. This study would be helpful to other researchers and related activities for further study in the field of football skills test.

Research Objectives

The main objectives of this study were as follows:

- i. To find out the status of football skills of Community and Institutional school boy students.
- ii. To compare the football skills between Community and Institutional boy students.

Hypothesis of the Study

This study hypothesized that there is significant difference in the football skills of Community and Institutional school boy students.

Delimitation of Key Terms

This study was delimited on the following points.

- i. This study area was conducted in Tarakeshwor Municipality Kathmandu.
- ii. The study was focused on the skills of football game.
- iii. This study was based on the comparison of boy students in football skills.

Definition of the Key Terms

Physical Education: Physical education is an integral part of general education process is a field of endeavor which has as its aim the development of physically, mentally, emotionally and socially fit citizens through the medium of physical activities which have been selected with a view to realizing these outcomes. (Bucher,

Games: Games are competitive nature of sports or activities involving skills, tactics, and change in movement, athletic prowess on the part of two or more persons who play according to the set of rules for example: Football, Basketball, Volleyball etc.

Skill: Skill means ability of the students, on football in which students perform perfectly.

Test: A test is a form of measuring used to measure ability in some physical endeavor.

Sports: Sports is an event where the repetition's of movements are done such as swimming, running, weight lifting, cycling etc. usually of a competitive nature.

Training: Training is a special process of preparation of sports persons based on scientific principles aimed at improving and maintaining higher performance capacity in different sports activities. It is a particular type of training designed to improve fitness and abilities to perform in a given sport.

Mc Donald Soccer's Test: To measure the proficiency of the players kicking.

"8" Dribbling Test: To measure the dribbling ability and controlling the ball while dribbling

Lobbed Ball Test: To measure the passing capacity with lobbed and rolling way.

Chapter 2. Review of Literature

Review of Theoretical Literature

Scherchan, (2067) the theory of operant conditioning learning was developed by American psychologist. This theory shows the relationship between behavior response and reinforcement without stimulus. There is interrelated or inter lock relation between stimulus-response practice emphasized for developing learner's skills and efficiency about the main principle of this theory. If learners learn systematically about learning skills, they will get reinforcement. So, practice is the base line in operant conditioning learning. According to Skinner's an organism learns by producing changes in its environment. Reinforcement may influence for learner's sports, physical skills and learning activities. This theory is very useful and behavioral for physical activities and sports skills. If learners perform well at sport, they will provide reward as reinforcement as soon as possible. Sport is life theory was developed by Jhon Dewey. This theory is based on learning, by practicing game which enables people for the lifelong activities. It develops organs and makes a person attractive ad develops good personality. A man is alive till he plays and when stops playing is supposed to be dead and has no existence. Therefore human life has essential activity that makes him developing confidence so game is accepted as life. (Skinner, 1938, as cited by Scherchan, 2067, p. 9).

Vygotsky: Social Cultural Learning

Chiluwal, (2020) has described the book "Educational Learning Theories" whereas they make clear that Vygotsky has established Social Cultural Learning. He is known as educational psychologist with a socio-cultural theory. This theory suggests that social interaction leads to continuous systematic change in children's thought and behavior that can vary greatly form culture to culture. Vygotsky has cleared that the discussion given among students to the understanding of the relation between the social world and cognitive development. Particular attention has given to the significance of culture, the role of language, and the student's relationship with this social world. His view of the integrated and dynamic social-nature of learning, and the notion of a zone of proximal development, which utilizes such ideas, introduced. Vygotsky's ideas on cognitive development have shown to lead to student-centered and a co-constructivist basis of learning, in which the student

potential within the social context has accommodated. The dynamic relationships between culture, history, interpersonal interactions and psychological development have described, and the important role of language as a common and conducting medium discussed. He emphasizes the importance of the social aspect of learning, and particularly the student-centered and co-constructivist basis of learning in which the individual's potential within the social context has addressed. It concluded from this theory, the socio-cultural factor's directed the people's attitude towards issues (Zhou and Brown, 2015, as cited by Chiluwal, 2020, p. 4 & 5).

Review of the Empirical Literature

Paudel, (2005) had studied about "A Comparative Study of Basketball Skills among the Private and Public Secondary School's Students of the Rupandehi District." The main objectives of the study were to measure and compare the significant basketball skills among the secondary school students. He applied purposive sampling technique and used the Johnson basketball skill test measure the skills of students, he found the private school have got more marks in field speed test and throw for accuracy and public school students have got more marks in dribble test. But statistical treatment did not show any significance in their skills.

Rai, (2007) had undertaken a study entitled "A Comparative Study of Volleyball Skills in Public and Private Secondary School Girls of Kathmandu District." The purpose of the study was to find out the volleyball skills and compare to public and private schools girls student. While comparing the volleyball skills of the students, she found that the public schools were better than the private schools. When compare each factor separately, the public schools girls were found significantly better than private schools girls in volleyball serving and set-up test on the other hand, the private school's girls better in passing test.

Sthapit, (2009) has studied "Comparative Study of Badminton Skills Between Girls Students Secondary Level of Government and Private Schools of Kathmandu District." The main objective of the study was to find out and compares the badminton skills between the private and government school students. He had collected 50 students from private and 50 from government school through purposive sampling method. He found significantly difference in some test of badminton. There was significant difference in Scott and Fox long service test between the private schools

girls and government school girls. According to the statistical treatment government school girls were better in Poole forehand clear test than the private school girls. The private school girls showed better performance in Scott and Fox long service test than the government school girls and finally both the school girls showed equal performance in French short service test.

Thapa, (2009) in this study entitled "A Comparative Study on Volleyball Skills between the Public and the Private Secondary School Students of Kirtipur Municipality." The main objectives of the study were to measure and compare volleyball skills of the private and the public secondary level schools by students of Kirtipur Municipality. He applied purposive and simple random sampling method. He used the readymade tools AAHPER volleyball skills test and he found no significant between the public and the private school students in volleying, servicing and passing tests. There researcher found the significant different between the public and private school students in set-up test only.

Chiluwal, (2010) has studied "Comparison of Volleyball Skills between the Students of Private and Government Campuses in Kathmandu District." The main objective of the study were to find out the status of volleyball skills of bachelor level students in private and government campus and to compare the status of volleyball skills of bachelor level students in private and government campuses. He applied systematic random sampling method and used readymade tools by AAHPER volleyball skills test for data collection. He found no significant difference between private and government campus students in volleying test because the tabulated t-value was greater than calculated t- value.

Sharma, (2011) studied on "Comparison of Basketball Skills between the Public and Private Secondary School Students of Kailali District." The main objectives of the study were to find out and compare the basketball skills between the boy of public and private secondary school in Kailali district. The researcher applied purposive sampling technique and used readymade tools made by Johnson basketball skills test. It had three items field goal speeds test, throw for accuracy and dribble test. He did not found significance difference between them in item wise comparison.

Bhatta, (2011) the study entitled, "Comparison of Agility between national player of football and basketball game in Nepal" was conducted in order to compare

overall skills and agility of national level players of Nepal. The researcher used shuttle run test, 50 yard dash and 600 yard dash test to obtain the required data. The researcher found the overall agility of football players to be better than that of basketball players.

Sharma, (2014) conducted a research on "Physical fitness level among the secondary school's boy student of high attitude and low attitude in Solukhumbu district. The main objective of the study was find out the physical fitness level of secondary boy school students. Quantitative research design was applied in this study. In this study, the main source of data were the higher secondary level Magar and Chhetri boy's student of Solukhumbu district, in conclusion was found slightly than Magar student. After viewing the average pass score it can be concluded that the level of physical fitness of Chhetri and Magar higher secondary level student was not found good.

Mandal, (2015) studied on "Comparison of Volleyball Skills Among Boy Students of Community and Institutional Secondary School of Bajhang District." The main objective measure and compare the volleyball skills among boy students of community and institutional secondary school students. He applied purposive sampling method and descriptive cum comparative research design. He used readymade test items of Russell- Lang Volleyball Skill Test to measure the skills of students. The researcher concluded that the institutional secondary school boy students were slightly better than community secondary school students in serving and repeated volley test. Institutional secondary boy students have good perceptual learning skill and were curious to play volleyball game.

Khadka, (2018) studied on "Development and Challenges of Futsal in Kathmandu Valley." The main objectives of the study were to determine the current situation of futsal in Kathmandu valley. The researcher applied purposive sampling method. He found there were 75 futsal arenas established in Kathmandu valley. There were 10 thousand people play futsal in 100 futsal arenas in Nepal and 1 million paid in a day. There was 85 percent student, 5 percent players and 10 percent others people participate in futsal.

Ranamagar, (2019) studied on "Comparison of Football Skills Between the HPE and Non HPE Girls Students of Kathmandu District." The main purpose of this study was to find out and compare difference in football skills between the bachelor level HPE and Non-HPE first year girl students. He applied purposive sampling and random sampling method. He used readymade Mc-Donald Soccer's Test, football punt and juggling test. The researcher conducted that HPE students have better football skills in comparison to Non-HPE students.

Chiluwal, (2019) the study entitled, "Comparative study on physical fitness between indigenous and non-indigenous students in Lamjung district." The main objective of the study was to compare the existing status of physical fitness between indigenous and non-indigenous students of secondary schools. The researcher used AAHPER test battery to obtain the required data. In this study, comparative cum analytical research design was applied. The researcher found significance difference between the means of indigenous and non-indigenous students. In pulls up, sit ups, standing board jump, shuttle run and 600 yard run walk score of indigenous students was found better than non-indigenous students. While comparing each test items separately, significant difference was found in all test items except sit ups test.

Niroula, (2021) the study entitled, "Comparison of volleyball skills between public and institutional secondary school students in Kirtipur Municipality." The main objective of the study was to compare the volleyball skills between groups of girl students in public and institutional secondary schools. The researcher used AAHPER volleyball skill test battery to obtain the required data. In this study, comparative cum analytical research design was applied. The researcher found significance difference between the means of both girl groups in overall tests.

Implications of the Review for the Research

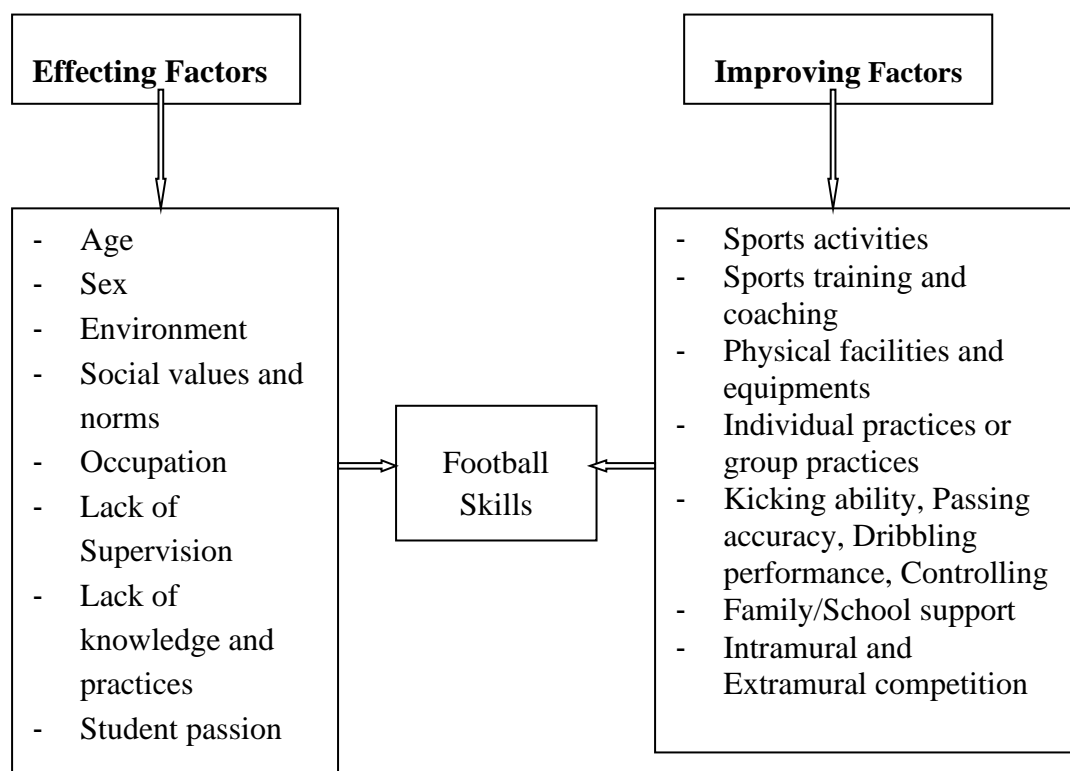
The reviews of above related literature help to design chapter as well as methodology of this study. The reviews were very beneficial in selecting research tools and sample and also in deciding the number of respondents for selected game. The review of literature will also help to design and develop table, abstract, finding and various information. The above mention literature will help to the researcher to make new test skill of games observation and method also.

Conceptual Framework

Conceptual framework develops by the theoretical framework so that it is the one part of theoretical framework. This framework shows the relationship between factors, dependent variables and independent variables reference to football skills. Here we are discussing about the find out to explore and examining football skills between Community and Institutional school boy students in Tarakeshwor Municipality Kathmandu.

Figure 1:

Conceptual Framework



The study about the examining football skills is necessary to know about the boy students of Community and Institutional school. Most of students have participated in football game. Different games and sports tournaments organized by schools and mayor cup at Tarakeshwor Municipality in every year, available physical facilities, training and coaching season, family/school support, intramural / extramural competition, achievement in different level competition and strategies made by Community and Institutional schools were for the betterment performance of football game as mentioned above in pictorial chart which shows the improving factors of a football skills.

Chapter 3. Research Methodology

This chapter deals with the methodology of this study. Purpose of this chapter is to describes and define the research design, source of data, population of the study, sampling procedure, test items and data collection techniques which are describe in different subheadings below.

Research Design

The study was comparative cum descriptive research design with quantitative nature. It is intended to compare and analyze the existing situation of football skills between the boy students of Community and Institutional school in Tarakeshwor Municipality Kathmandu.

Source of Data

The study was based on the primary data obtained from the selected respondents. The primary data was collected from boy students of Community and Institutional schools.

Population of the Study

The population for the study in the Community and Institutional school boy students was included in the study.

Sampling Procedure and Sample Size

The simple random sampling method was applied for the study. Altogether 100 respondents including 50 Community and 50 Institutional school boy students were selected the sample size.

Table 1

Showing Process of Sampling Procedure and Sample Size

S.N	Name of School	Total population	Sample size	Sample Procedure
1.	Kalidevi Sec. S.	78	25	Simple
2.	Kunjipwakal Sec. S.	34	25	random
3.	Greenhills Academy	37	25	sampling
4.	Milan Dharmasthali School	31	25	method for respondents
	Total	180	100	

Data Collection Tools

In this study following ready-made standard tests were used as the tools to collect the data. Mc-Donald Soccer's Test. (Jha, 2010, p. 334). "8" Dribbling and Lobbed Ball Test (<http://www.researchgate.net/publication/315998681>) would be used in this research.

Mc-Donald Soccer's Test

Objectives: To measure the proficiency of the players kicking.

Basic Requirements: For the effective and managed conduction of Mc-Donald Soccer's Test some following fixed material requirements are necessary:-

- i. Minimum 11 fit 6 inches tall and 30 fit long plain wall
- ii. Stop watch
- iii. Football- 3
- iv. Line or white tape or lime powder for field marking

Marking Procedures: Examiner mark the aimed field with fixed measurement in managed way to conduct of Mc-Donald Soccer's Test. Here, 11 fit 6 inches tall and 30 fit long wall marking can be completed along with land floor through following procedures comfortably:

- i. Firstly, in wall 11 fit 6 inches above from land.

- ii. Then after, mark the 30 fit long line from both corner up to land in vertical parallel line. Like this, in the process of test, marked wall i.e rectangular field is the aimed field for examinee and in this field, ball is kicked to bring a change.
- iii. In the third step of marking, in the distance of 9 fit, parallel to wall mark a line. This marked line is restraining line for examinee. In our example, suppose this line is 'AB' now, keep a ball in this middle of this line.
- iv. At last, from the earlier marked restraining line mark another line from 9 fit distances. This line should be parallel to limitation line. In our example, suppose this line is 'CD' now keeps 2 balls outside of this marked line CD. In this way, the kept ball in the process of test can be used as an alternative according to the necessity.

Administration of test: In the beginning of action test, examinee has stood prepared in the position to kick the ball behind the marked restraining line in the distance of 9 fit from the wall. Then after, examinee starts to kick the ball to aimed field being stayed outside of restraining line after the instruction of 'GO' by examiner. The main fact is that kicked ball must reach to restraining line with this the changed ball being controlled should be kept in restraining line for every time, then after kicking should be done. In the process of kicking, participant can use any method according to his own comfort level.

In the process of action oriented demonstration, the changed ball should be controlled for this examinee stayed in restraining line and can use hands, foot or part of the body. But before every attempt, ball must be kept in the restraining line. So, if ball is uncontrolled and goes to outside of the limitation line in the process of action oriented demonstration the examinee should choose the ball among the two alternative balls which are kept in outer restraining line by kicking or catching with hands as soon as keeping in restraining line and must be ready to kick. Here, in the process of demonstration, examinee gets 1 point for every successful kick and in 30 seconds duration, the total of edited successful kick is the examinee's kora score. But in the process of demonstration, examinee does not get any score if the ball stocks to the wall and does not turn to restraining line which is kicked from restraining line.

The action of this test 30/30 second duration every examinee is asked to repeat it four times among these the total of total number which is respondent final score.

Scoring: In Mc-Donald Soccer's Test, every participant in the duration of 30 second tries to kick in the highest number as soon as possible. Here, the participants get 1-1 score for every kick. Every kick in the duration of 30 second is calculated and the total is the kora score. In this way, every examinee in the period of 30-30 second taking the essential break, repeats it 4 times and kora score of every attempt is kept written. At last, the best 3 attempts are calculated and this is the final score of that participant.

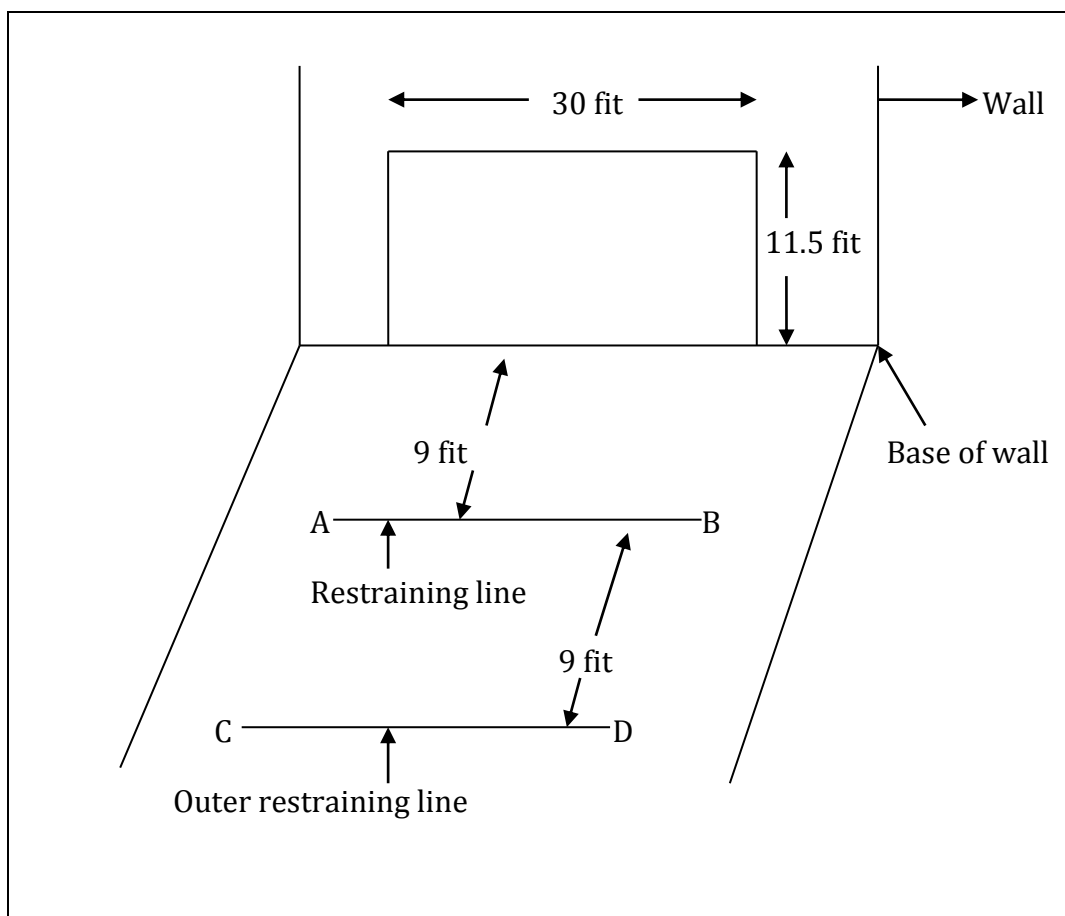


Figure 2

Mc- Donald Soccer's Test

"8" Dribbling Test

Objective: To measure the dribbling ability and controlling the ball while dribbling.

Basic Requirements:

- i. 5 flag posts
- ii. Ball- 3
- iii. Stop watch
- iv. Measuring tape
- v. Lime powder

Marking Procedures: A starting line was marked and 5 flag posts (A, B, C, D & E) were fixed in a straight line with a distance of 3 meter in between. The line of flag posts was perpendicular to the straight line as shown in fig. no: 02. On the signal ("Go") the subject start dribbling from the starting line and have to dribble the posts in a zig-zag manner as shown in the figure. The subject than turn around the post E and return back in the same manner till he crossed the starting /finishing line. Each subject was given 3 trials and the time of subject between the starting line and finishing line were recorded.

Instructions: If the ball goes out of control the subject must retrieve it and continue from there itself. If the subject missed any of the flag post the trial was repeated again.

Scoring: The time of 3 trails was recorded in seconds and the best was taken as the score of subjects.

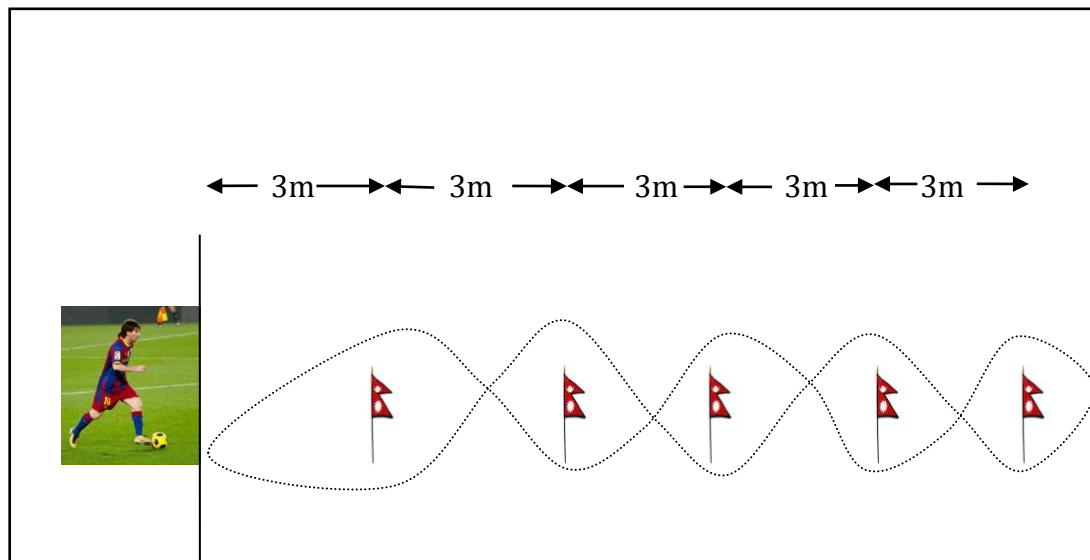


Figure 3

"8" Dribbling Test

Lobbed Ball Test

Objectives: To measure the passing capacity with lobbed and rolling way of respondents.

Basic Requirements:

- i. 16 small plate cone
- ii. Measuring tape-1
- iii. Ball- 1
- iv. 1 video camera with tripod

Marking Procedures: A starting square is drawn by 1.5 x 1.5 meter and other 3 squares were drawn from 30 meter distance from starting square. The first 4.5 meter by 4.5 meter square is drawn from the starting square. The second 3 meter by 3 meter square is drawn in first square overlapping at the same mid point of both squares and the third 1.5 meter by 1.5 meter square is drawn in first and second square overlapping at the same mid point of squares. The square as shown in figure no: 03.

Administration of Test: The player has to lob pass the ball which can either be still or the player may send it rolling to any of the squares situated 30 meters from the squares they are standing in. Another player standing in the middle of the smallest square received the pass. When this player receive the lobbed pass in any of the three squares, the other player scores. If the ball lands in this smallest, inner square, the player gets 3 points, if it lands in the 3 meter by 3 meter square, then 2 points, while the outer square is worth 1 point. The player has 5 attempts with each leg.

Scoring: Score are based on the square the ball is received in. Here, the participants get 3 points, if it lands in the 1.5 meter by 1.5 meter square, if it lands in the 3 meter by 3 meter square, then 2 points, while the outer square is worth 1 point.

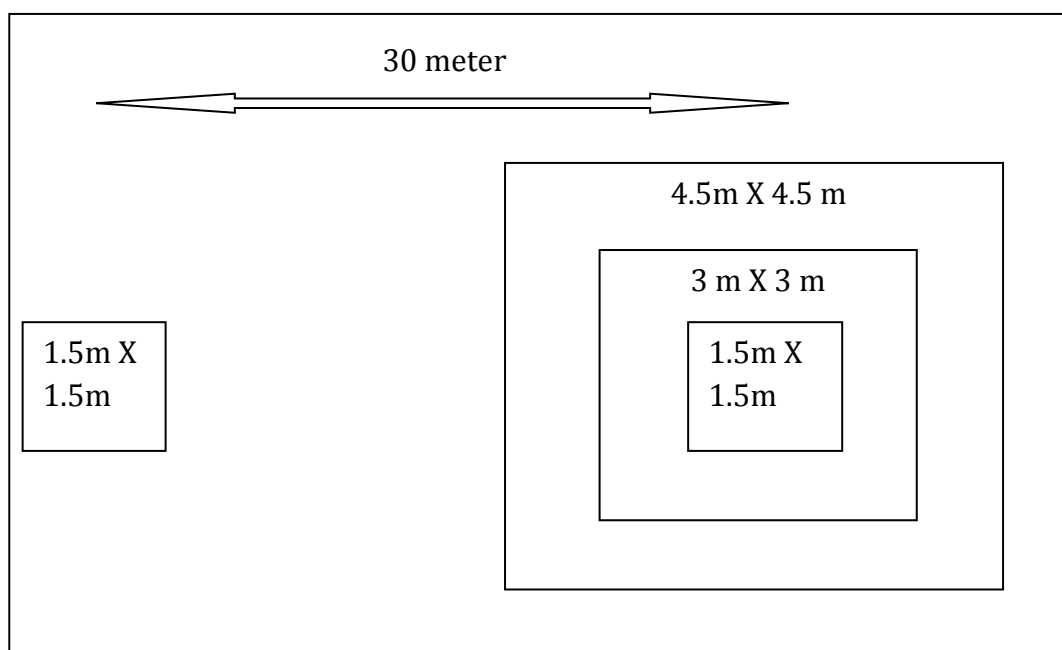


Figure 4

Lobbed Ball Test

Standardization of Tools

The three tools were used for this study are Mc-Donald Soccer's Test, "8" Dribbling and Lobbed Ball Test. Since kicking accuracy is an important component of football performance, the researcher use Mc-Donald Soccer's Test verified by Mc-Donald to measure the kicking ability and leg strength of the respondent (Jha, A. K. 2010, p. 334). "8" Dribbling Test to measures the dribbling ability and controlling the ball while dribbling co-ordination with the body of the respondent. Likewise, Lobbed Ball Test to measure the ball passing capacity with lob and rolling way and also determine the concentration ability of respondents.

(<https://www.reaserchgate.net/publication/35998681>). Thus, the researcher would be including these three test items for overall evaluation of football skills.

Data Collection Procedures

In the process of data collection, the researcher will visit the schools of Kathmandu valley with the recommendation letter from the Physical Education Department University Campus, Kirtipur, Kathmandu. The researcher request to the concerned person's such as the school, principal, physical education teacher from the school to arrange the students. The researcher himself arranged the essential required equipment and materials needed to administer the tests. In the process of the test

administrating at the first will be mark for Mc-Donald Soccer's Test, "8" Dribbling Test and Lobbed Ball Test. Test and necessary equipments will join for the playground of the school. Before starting the test, the researcher provided lecture classes about skill ability for 15 minutes in all the samples. After that the researcher gathered students in the field before applying these tools, the researcher commands respondents for the attention in a line. Then they were set ready for warm-up exercise 10 minutes.

Data Analysis

While the researcher will be collecting the required data, the researcher analyze and interpretations data as per the demands of the research objectives. Some statistical measures and methods such as Mean, Standard Deviation, Coefficient of Variance, Z-test, etc. were applying to analyze and interpret the data.

Ethical Considerations

The study was based on football skills between Community and Institutional school boy students. The respondents were assured of their privacy and no harm through this study. Respondents weren't forced to skills test the respondent's name and other personal things were kept at top confidential in this research and collected data weren't used in any other area and field.

Chapter 4. Results and Discussion

In this chapter, all the information collected from the field were tabulated, analyzed and interpreted as per the objective of the study. The researcher collected the data from the field by using three different skills test methods. The data were used to compare the skills of football between Community and Institutional school boy students of Tarakeshwor Municipality Kathmandu. The researcher was tried to find the difference on football skills of selected students on the basis of Mean Score, SD, CV, Z-Score, T-Score and Composite Score in this chapter. The total 100 respondents were selected for the study whereas 50 students from Community and remaining were Institutional boy students.

Item Wise Examining Football Skills between the Community and Institutional School Boy Students

The researcher applied all three test items recommended in Mc-Donald Soccer's Test, 8 Dribbling test and Lobbed Ball Pass test. By using the collected data, the researcher compared the football skills of the students of Community and Institutional school boy students. The item wise comparison of football skills is done. Mean Score, Standard Deviation, Coefficient of Variation and Z-test value is compared for each test item to identify the difference between two respondent groups.

Comparison of Mc-Donald Soccer's Test

This test is designed to measure general football kicking skills, it is most appropriate for all levels. This is one of the most reliable tools for football skill test. The comparison between two respondents group is made on the basis of their Mean Score, Standard Deviation and Coefficient of Variation. By treating the Mc-Donald Soccer's Test scores of Community and Institutional school boy students, the researcher found the result as following.

Table 2

Comparison of Mc-Donald Soccer's Test between Community and Institutional Schools Boy Students

Particular	Community Students	Institutional Students
Mean	26.04	31.1
Standard Deviation	4.12	3.48
Coefficient of Variation	15.82	11.18
Calculated Z-value	6.63	
Tabulated Z-value	1.96	
Result	Significant	

The above table shows that mean score of Community school boy students is 26.04 and mean score of Institutional school boy students is 31.1 in Mc-Donald Soccer's Test. The mean score of Institutional school boy students is higher than Community school boy students. The Standard Deviation of Community school boy students is 4.12 whereas the Standard Deviation of Institutional school boy students is 3.48 due to which the Coefficient of Variation is higher among Institutional boy students. Calculated Z-value is 1.96 at .05 significance level. The calculated Z-value is more than tabulated Z-value at .05 significance level. So, it was concluded that there is significant difference between the means of two groups.

By seeing the difference between the mean score the researcher concluded that Institutional school boy students showed better performance in Mc-Donald Soccer's Test than Community school boy students. The Institutional school students have more facilities at school for playing game. So, students have more kicking skill knowledge of scoring process.

Comparison of "8" Dribbling Test

In "8" Dribbling is the skill of moving the ball around the field by use of the feet, unassisted by other players. Dribbling include keeping the ball as close to the feet as possible in order to maintain control of the ball, using the correct part of the feet to contact the ball in order to maintain balance of the body, and trying to maximize the use of the lower part of peripheral vision to see the ball in order to keep as much of the field in sight as possible during performance of the skill. This was

conducted to measure the dribbling skill of the respondent students. While taking the data, each respondent was given 3 chances and the total obtained mark was recorded for further analysis. The table below shows the comparison between Community and Institutional school boy students.

Table 3

Comparison of "8" Test between Community and Institutional School Boy Students

Particular	Community Students	Institutional Students
Mean	56.09	50.09
Standard Deviation	10.02	5.54
Coefficient of Variation	17.88	11.06
Calculated Z-value	3.70	
Tabulated Z-value	1.96	
Result	Significant	

From the table above, it is found that the mean score of Community school boy students is 56.09 seconds and the mean score of Institutional school boy students is 50.09 seconds on "8" Dribbling which show that Institutional school boy students have better performance in comparison to Community school boy students. The Standard Deviation of data among Institutional boy students is higher than of that of Community boy students. The researcher applied Z-test to find significant difference between the means of Community and Institutional school boy students. Calculated Z-value was 3.70 and tabulated Z-value is greater than tabulated Z-value at .05 significance level. Thus, significance difference was found between the "8" Dribbling test of Community and Institutional school boy students.

This test is generally used to test the ball dribble ability of the respondents. Since, the dribble ability was found better than Community school boy students. The Institutional school boy students have more participate in football games. Thus, significant difference was seen between two respondent groups.

Comparison of Lobbed Ball Test

In the football game, passing skill is the most important skill. It means, it is the basic skill. So, the researcher applied long passing test to find out actual status of this

skill between Community and Institutional school boy students. The researcher found the following result.

Table 4

Comparison of Lobbed Ball Test between Community and Institutional School Boy Students

Particular	Community Students	Institutional Students
Mean	8.1	8.36
Standard Deviation	1.72	1.62
Coefficient of Variation	21.23	19.44
Calculated Z-value	0.78	
Tabulated Z-value	1.96	
Result	Not Significant	

The above table shows that mean score of Community school boy students is 8.1 and mean score of Institutional school students is 8.36 in Lobbed Ball Test. The mean score of Institutional school students is higher than Community school boy students. The Standard Deviation of Community school students is 1.72 whereas the Standard Deviation of Institutional school boy student is 1.62 due to which the Coefficient of Variation is higher than Community school boy students. Calculated Z-value was 0.78 and the tabulated Z-value is 1.96 at .05 levels less than tabulated Z-value is 1.96 at .05 level of significance. So, it was concluded that there is no significant difference between the means of two groups.

By seeing the difference between the mean score the researcher concluded that similar performance seen between two respondent groups in ball kicking ability for long distance passing with lob and rolling way.

Comparison of Composite Score between Community and Institutional School Boy Students

After collecting the required data for three different tests i.e. Mc-Donald Soccer's Test, "8" Dribbling and Lobbed Ball Test, its composite score was calculated. Initially the data were assembled in a organized pattern and T-score for each test was calculated. The sum of thus obtained T-score is Composite score. Composite score for each respondent was calculated. Composite scoring involves

combining the items that represent a variable to create a score, of data point, for that variable. This statistic allows you to make a statement regarding the acceptability of the combination of items to represent your variable. The following table shows obtained results.

Table 5

Comparison of Composite Score between Community and Institutional School Boy Students

Particular	Community Students	Institutional Students
Mean	149.42	161.65
Standard Deviation	23.49	21.90
Coefficient of Variation	15.72	13.54
Calculated Z-value	2.69	
Tabulated Z-value	1.96	
Result	Significant	

As shown on the table above the comparison of composite score between Community and Institutional school boy students. The average composite score for Community school boy students was found to be 149.42 which is greater than that of Institutional school boy students i.e.161.65. The Standard Deviation in result was found higher than Community school boy students which led the researcher conclude better football skill status among Institutional school boy students. Since the calculated Z-value i.e. 2.69 is greater than the tabulated Z-value i.e.1.96 at.05 level of significance. So, significant difference between the two respondent groups can be concluded.

Although in all test items Mc-Donald Soccer's Test and "8"Dribbling Test was found significant difference between Community and Institutional school boy students whereas Institutional school boy students performed similar performance in Lobbed Ball Test due to which the average composite score of Institutional school boy students was found better in football skills. Generally, it seen that the Institutional school are more facilitated than Community Schools so, the result is indirectly affected by various components i.e. sport facilities, sports teacher, training, game practice and participation in tournament etc. in items wise comparison.

Testing of Hypothesis

Previously it was hypothesized that there is significance difference in Community and Institutional school boy students from data analysis, interpretation and findings of the study. It was found that the mean score of significance difference between Community and Institutional school boy students in Mc-Donald Soccer's Test. While applying Z-test between the two groups at.05 level of significance, Institutional school boy students had better performance. The study that there is no significance difference between two respondent groups in Lobbed Ball test because the tabulated Z-value (1.96) is less than calculated Z-value (0.78), "8" Dribbling Test the researcher found significance difference between Community and Institutional school respondent groups. The calculated Z-value (4.55) was greater than the tabulated Z-value (1.96). Overall, while comparison composite scores the researcher found significance difference between two respondent groups. Thus, on the above ground previously stated hypothesis can be accepted.

Key Findings

After this statistical analysis and interpretation of primary data the researcher has drawn some findings which are given below:

- i. In the Mc-Donald Soccer's Test, the mean score of Institutional school boy students was found slightly higher than Community school boy students and significant difference was found at.05 level of significance between the means of two groups while applying Z-test. Somehow, Institutional school boy students have better kicking and controlling ability than Community school boy students.
- ii. The researcher found significant difference between the means of Community and Institutional school boy students while applying Z-test at.05 significance level in "8" Dribbling test. The mean score of Community school boy students was also higher than institutional school boy students. Thus, Institutional school boy students have better dribble ability as compared to Institutional school boy students.
- iii. The researcher compared the Lobbed Ball Test of the Community and Institutional school boy students from the data were calculated. The researcher found no significant difference between the two groups, while

applying Z-test at .05 level of significance between the means of two groups. Somehow, Institutional school boy student have better performance in ball kicking capacity with lob and rolling way.

- iv. The composite score was the sum of individual T-score of the respondents. The average composite score of Institutional school boy students was found better since their performance and average score calculated was better in Mc-Donald Soccer's Test, "8" Dribbling Test and Lobbed Ball Test. The researcher found significance difference in football skills between Community and Institutional school boy students in Tarakeshwor Municipality Kathmandu.

Discussion

Skills test reflect the ability of the players perform in specified games and sports and it helps for classifying, measuring and determining progress the player's in a particular games and sports. So, the researcher tried to compare and differentiate on football skills between the Community and Institutional school boy students. To fulfill the objectives of this study, the researcher had selected two Community schools and two Institutional schools in Tarakeshwor Municipality Kathmandu.

All the data which was used in this study were the primary data. The data were collected by the researcher himself. The data obtained was analyzed with reference to the objectives by using statistical tools such as Mean, SD, CV, Z-test and T-score. Further composite score of each respondents score was calculated. The comparison was made being based on the calculated Z-value and comparing them with tabulated Z-value at .05 level of significance. The researcher found no significance in Lobbed Ball Test whereas significant difference between Community and Institutional school boy groups was found in Mc-Donald Soccer's test and "8" Dribbling test. While comparing the composite scores of the respondents groups a significant difference was found which led the Institutional school boy groups. The researcher to conclude that there is significance difference in football skills between Community and Institutional school boy students.

Being based on their findings the researcher concluded that Institutional school boy students have better performance in football skills with the comparison to Community school boy students. Moreover, the Institutional school boy groups have

more physical facilities at school, sports teacher, provided them sports friendly school environmental, training season and they were participation in games and sports tournaments than Community school boy students.

Chapter 5. Conclusions and Implications

Conclusions

This research title was "Examining Football Skills between the Boy Students of Community and Institutional Schools in Tarakeshwor Municipality Kathmandu." The objectives of the study were to find out the status of football skills of Community and Institutional schools boy students and to compare the football skills between Community and Institutional school boy students. The comparative cum descriptive research design and three different readymade test items i.e. Mc-Donald Soccer's Test, "8"Dribbling Test and Lobbed Ball Test were used tools for this research. These test items measure the ball kicking ability, dribbling, and long passing capacity with lob or rolling way. In this study, 50 boy students from Community school and 50 boy students from Institutional school boys were taken as sample size by using simple random sampling method for this research work.

The researcher has found that significant difference in Mc-Donald Soccer's Test and "8"Dribbling test between Community and Institutional school boy students. While applying Z-test between the two respondent groups at .05 level of significance. The Institutional respondent group's score were found higher than Community school respondent groups in Mc-Donald Soccer's test and "8"Dribbling test. A significant difference was not found in Lobbed Ball Test. The statistical measure was indicated that the similar skills performance in Lobbed Ball Test. The tabulated Z-value 1.96 is less than calculated Z-value is 0.78. Furthermore, a significant difference was found while comparing composite score of two respondents groups using Z-test .05 level of significance. Being based on these findings the researcher concluded that Institutional school boy students have better performance in football skills with the comparison to Community school boy students. This means, the Institutional school boy respondents were better in football skills. Moreover, the Institutional school boy groups have more physical facilities at school, sports friendly school environmental and they were involved in games and sports activities than counterparts.

Implications

The findings of this study have important implications and potential values in various areas. It mostly brings some crucial findings which may be useful in policy

development, practical implication and contribution to implication for further research. Thus, the implication of the present study is as follows:

Policy Related Implications

- i. Physical Education should be taught in each and every school to gain basic skill knowledge of in games and sports.
- ii. Sports teacher should be facilitated by the government to conduct sports friendly school environment.
- iii. National Sports Council and District Sports Development Committee is suggested to support to organize inter-school sports tournaments to enhance their betterment performance in games and sports.

Improvement Related Implications

- i. All the secondary schools should give priority for physical education in games and sports.
- ii. Provision of better playing materials and facilities should be done.
- iii. Special coaching skill based training program should be provided Community and Institutional school students to improve their performance level on these concerned games and sports.
- iv. Students should be encouraged to participate in different games and sports during their leisure time.
- v. Different level tournaments should be organized to ensure the betterment performance of the players.

Implications for Further Study

- i. A comparative study of football skills test can be done among Community and Institutional school girl students coverings a wide range.
- ii. The study can also conduct comparing skills of any other games and sports.
- iii. Similar kind of study can be done in different district, region in different age groups and national level of boy/girl players.

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"Appendix A,"

**Calculation of Mean, Standard Deviation and Coefficient of Variation of
Community Boy Students in Mc-Donald Soccer's Test**

S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$	S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$
1	30	15.6816	28	30	15.6816
2	25	-1.0816	29	32	35.5216
3	33	48.4416	30	33	48.4416
4	24	-4.1616	31	31	24.6016
5	24	-4.1616	32	32	35.5216
6	34	63.3616	33	33	48.4416
7	33	48.4416	34	28	3.8416
8	20	-36.4816	35	22	-16.3216
9	19	-49.5616	36	26	-0.0016
10	28	3.8416	37	25	-1.0816
11	31	24.6016	38	28	3.8416
12	25	-1.0816	39	23	-9.2416
13	27	0.9216	40	26	-0.0016
14	22	-16.3216	41	22	-16.3216
15	35	80.2816	42	26	-0.0016
16	25	-1.0816	43	28	3.8416
17	29	8.7616	44	26	-0.0016
18	27	0.9216	45	21	-25.4016
19	21	-25.4016	46	27	0.9216
20	25	-1.0816	47	19	-49.5616
21	25	-1.0816	48	25	-1.0816
22	23	-9.2416	49	27	0.9216
23	26	-0.0016	50	26	-0.0016
24	22	-16.3216	Total	1302	852.8
25	20	-36.4816	Average	26.04	
26	24	-4.1616			
27	23	-9.2416			

$$\text{Mean}(\bar{X}) = \frac{\sum X}{N} = \frac{1302}{50} = 26.04$$

$$SD(\sigma) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{852.8}{50}} = 4.12,$$

$$\text{C. V.} = \frac{\sigma}{X} \times 100\% = \frac{4.12}{26.04} \times 100\% = 15.82$$

"Appendix B,"

**Calculation of Mean, Standard Deviation and Coefficient of Variation of
Institutional Boy Students in Mc-Donald Soccer's Test**

S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$	S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$
1	27	-16.81	28	32	0.81
2	28	-9.61	29	33	3.61
3	25	-37.21	30	29	-4.41
4	27	-16.81	31	26	-26.01
5	29	-4.41	32	24	-50.41
6	25	-37.21	33	34	8.41
7	29	-4.41	34	30	-1.21
8	34	8.41	35	30	-1.21
9	26	-26.01	36	34	8.41
10	23	-65.61	37	31	-0.01
11	32	0.81	38	35	15.21
12	27	-16.81	39	29	-4.41
13	30	-1.21	40	33	3.61
14	28	-9.61	41	24	-50.41
15	33	3.61	42	33	3.61
16	35	15.21	43	28	-9.61
17	32	0.81	44	33	3.61
18	30	-1.21	45	29	-4.41
19	32	0.81	46	30	-1.21
20	28	-9.61	47	35	15.21
21	33	3.61	48	29	-4.41
22	34	8.41	49	28	-9.61
23	32	0.81	50	33	3.61
24	31	-0.01	Total	1505	608.1
25	24	-50.41	Average	31.1	
26	36	24.01			
27	30	-1.21			

$$\text{Mean}(\bar{X}) = \frac{\sum X}{N} = \frac{1505}{50} = 31.1$$

$$SD(\sigma) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{608.1}{50}} = 3.48$$

$$\text{C. V.} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{3.48}{31.1} \times 100\% = 11.18$$

"Appendix C,"

**Calculation of Mean, Standard Deviation and Coefficient of Variation of
Community Boy Students in "8" Dribbling Test**

S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$	S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$
1	48.21	-62.0944	28	62.91	46.5124
2	65.76	93.5089	29	33.21	-523.4944
3	36.94	-366.7225	30	40.66	-238.0849
4	45.95	-102.8196	31	37.37	-350.4384
5	67.77	136.4224	32	63.69	57.76
6	44.92	-124.7689	33	50.23	-34.3396
7	41.85	-202.7776	34	66.02	98.6049
8	54.44	-2.7225	35	59.02	8.5849
9	69.06	168.2209	36	54.47	-2.6244
10	58.31	4.9284	37	52.72	-11.3569
11	69.43	177.9556	38	44.53	-133.6336
12	68.89	163.84	39	57.36	1.6129
13	63.29	51.84	40	57.03	0.8836
14	48.70	-54.6121	41	61.37	27.8784
15	44.01	-145.9264	42	55.36	-0.5329
16	52.78	-10.9561	43	58.07	3.9204
17	54.62	-2.1609	44	62.61	42.5104
18	47.65	-72.7609	45	75.24	336.7225
19	71.80	246.8041	46	51.72	-19.0969
20	61.34	27.5625	47	69.53	180.6336
21	61.97	34.5744	48	65.22	83.3569
22	73.03	286.9636	49	51.50	-21.0681
23	60.61	20.4304	50	49.37	-45.1504
24	61.21	26.2144	Total	2804.68	5029.8694
25	48.40	-59.1361	Average	56.09	
26	46.84	-85.5625			
27	57.69	2.56			

$$\text{Mean}(\bar{X}) = \frac{\sum X}{N} = \frac{2804.68}{50} = 56.09$$

$$SD(\sigma) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{5029.8694}{50}} = 10.02$$

$$\text{C. V.} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{10.02}{56.09} \times 100\% = 17.88$$

"Appendix D,"

Calculation of Mean, Standard Deviation and Coefficient of Variation of Institutional Boy Students in "8" Dribbling Test

S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$	S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$
1	46.94	-9.9225	28	55.65	30.9136
2	43.99	-37.21	29	44.97	-26.2144
3	47.34	-7.5625	30	49.35	-0.5476
4	42.34	-60.0625	31	51.80	2.9241
5	51.69	2.56	32	56.51	41.2164
6	53.19	9.61	33	44.65	-29.5936
7	56.22	37.5769	34	50.27	0.0324
8	60.42	106.7089	35	54.28	17.5561
9	55.28	26.9361	36	52.13	4.1616
10	51.47	1.9044	37	44.47	-31.5844
11	62.24	147.6225	38	43.51	-43.2964
12	54.02	15.4449	39	46.57	-12.3904
13	46.60	-12.1801	40	60.82	115.1329
14	52.30	4.8841	41	52.58	6.2001
15	42.12	-63.5209	42	46.53	-12.6736
16	45.09	-25	43	62.72	159.5169
17	55.37	27.8784	44	43.45	-44.0896
18	44.49	-31.36	45	54.94	23.5225
19	52.25	4.6656	46	50.01	-0.0064
20	54.69	21.16	47	44.49	-31.36
21	41.59	-72.25	48	51.16	1.1449
22	51.12	1.0609	49	48.57	-2.3104
23	49.38	-0.5041	50	44.86	-27.3529
24	52.56	6.1009	Total	2504.71	1539.1749
25	49.04	-49.7025	Average	50.09	
26	40.74	-87.4225			
27	47.94	-4.6225			

$$\text{Mean}(\bar{X}) = \frac{\sum X}{N} = \frac{2504.71}{50} = 50.09$$

$$SD(\sigma) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{1539.1749}{50}} = 5.54$$

$$\text{C. V.} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{5.54}{50.09} \times 100\% = 11.06$$

"Appendix E,"

**Calculation of Mean, Standard Deviation and Coefficient of Variation of
Community Boy Students in Lobbed Ball Test**

S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$	S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$
1	9	0.81	28	8	-0.01
2	7	-1.21	29	11	8.41
3	7	-1.21	30	8	-0.01
4	7	-1.21	31	9	0.81
5	8	-0.01	32	10	3.61
6	7	-1.21	33	7	-1.21
7	14	34.81	34	9	0.81
8	8	-0.01	35	7	-1.21
9	8	-0.01	36	8	-0.01
10	6	-4.41	37	10	3.61
11	11	8.41	38	8	-0.01
12	7	-1.21	39	7	-1.21
13	6	-4.41	40	8	-0.01
14	9	0.81	41	9	0.81
15	12	15.21	42	5	-9.61
16	7	-1.21	43	5	-9.61
17	8	-0.01	44	9	0.81
18	9	0.81	45	7	-1.21
19	8	-0.01	46	9	0.81
20	10	3.61	47	7	-1.21
21	6	-4.41	48	8	-0.01
22	7	-1.21	49	9	0.81
23	5	-9.61	50	7	-1.21
24	9	0.81	Total	405	148.25
25	10	3.61	Average	8.1	
26	8	-0.01			
27	7	-1.21			

$$\text{Mean}(\bar{X}) = \frac{\sum X}{N} = \frac{405}{50} = 8.1$$

$$SD(\sigma) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{148.25}{50}} = 1.72$$

$$\text{C. V.} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{1.72}{8.1} \times 100\% = 21.23$$

"Appendix F,"

**Calculation of Mean, Standard Deviation and Coefficient of Variation of
Institutional Boy Students in Lobbed Ball Test**

S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$	S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$
1	8	-0.1296	28	9	0.4096
2	7	-1.8496	29	8	-1.1296
3	8	-0.1296	30	10	2.6896
4	7	-1.8496	31	8	-0.1296
5	10	2.6896	32	9	0.4096
6	12	13.2496	33	9	0.4096
7	10	2.6896	34	9	0.4096
8	8	-0.1296	35	8	-1.1296
9	9	0.4096	36	6	-5.5696
10	9	0.4096	37	7	-1.8496
11	7	-1.8496	38	9	0.4096
12	9	0.4096	39	9	0.4096
13	8	-1.1296	40	8	-1.1296
14	9	0.4096	41	9	0.4096
15	8	-1.1296	42	8	-1.1296
16	11	6.9696	43	8	-1.1296
17	8	-1.1296	44	7	-1.8496
18	7	-1.8496	45	7	-1.8496
19	8	-1.1296	46	11	6.9696
20	7	-1.8496	47	8	-1.1296
21	10	2.6896	48	9	0.4096
22	8	-1.1296	49	8	-1.1296
23	8	-1.1296	50	7	-1.8496
24	8	-1.1296	Total	418	132.12
25	7	-1.8496	Average	8.36	
26	8	-0.1296			
27	8	-0.1296			

$$\text{Mean}(\bar{X}) = \frac{\sum X}{N} = \frac{418}{50} = 8.36$$

$$SD(\sigma) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{132.12}{50}} = 1.62$$

$$C. V. = \frac{\sigma}{\bar{X}} \times 100\% = \frac{1.62}{8.36} \times 100\% = 19.44$$

"Appendix G,"

Calculation of Z-score of Public Students

S.N.	Raw Score			Z-Score		
	Mc-Donald	"8" Dribbling	Lobbed Pass	Mc-Donald	"8" Dribbling	Lobbed Pass
1	30	48.21	9	0.9611	-0.7856	0.5232
2	25	65.76	7	-0.2524	0.9641	-0.6395
3	33	36.94	7	1.6893	-1.9092	-0.6395
4	24	45.95	7	-0.4951	-1.0109	-0.6395
5	24	67.77	8	-0.4951	1.1645	-0.1388
6	34	44.92	7	1.9320	-1.1136	-0.6395
7	33	41.85	14	1.6893	-1.4197	3.4302
8	20	54.44	8	-1.4660	-0.1645	-0.1388
9	19	69.06	8	-1.7087	1.2931	-0.1388
10	28	58.31	6	0.4757	0.2213	-1.2209
11	31	69.43	11	1.2038	1.3300	1.686
12	25	68.89	7	-0.2524	1.2761	-0.6395
13	27	63.29	6	0.2330	0.7178	-1.2209
14	22	48.70	9	-0.9805	-0.7367	0.5232
15	35	44.01	12	2.1747	-0.2043	2.2674
16	25	52.78	7	-0.2524	-0.33	-0.6395
17	29	54.62	8	0.7184	-0.1465	-0.1388
18	27	47.65	9	0.2330	-0.8414	0.5232
19	21	71.80	8	-1.2233	1.5663	-0.1388
20	25	61.34	10	-0.2524	0.5234	1.1046
21	25	61.97	6	-0.2524	0.5862	-1.2209
22	23	73.03	7	-0.7378	1.6889	-0.6395
23	26	60.61	5	-0.0097	0.4506	-1.8023
24	22	61.21	9	-0.9805	0.5104	0.5232
25	20	48.40	10	-1.4660	-0.7666	1.1046
26	24	46.84	8	-0.4951	-.09222	-0.1388
27	23	57.69	7	-0.7378	0.1595	-0.6395
28	30	62.91	8	0.9611	0.6799	-0.1388

29	32	33.21	11	1.4466	-2.2811	1.6860
30	33	40.66	8	1.6893	-1.5383	-0.1388
31	31	37.37	9	1.2038	-1.8664	0.5232
32	32	63.69	10	1.4466	0.7577	1.1046
33	33	50.23	7	1.6893	0.5842	-0.6395
34	28	66.02	9	0.4757	0.99	0.5232
35	22	59.02	7	-0.9805	0.2921	-0.6395
36	26	54.47	8	-0.0097	-0.1615	-0.1388
37	25	52.72	10	-0.2524	-0.3359	1.1046
38	28	44.53	8	0.4757	-1.1525	-0.1388
39	23	57.36	7	-0.7378	0.1266	-0.6395
40	26	57.03	8	-0.0097	0.0937	-0.1388
41	22	61.37	9	-0.9805	0.5264	0.5232
42	26	55.36	5	-0.0097	-0.0727	-1.8023
43	28	58.07	5	0.4757	0.1974	-1.8023
44	26	62.61	9	-0.0097	0.65	0.5232
45	21	75.24	7	-1.2233	1.9092	-0.6395
46	27	51.72	9	0.2330	-0.4356	0.5232
47	19	69.53	7	-1.7087	1.3399	-0.6395
48	25	65.22	8	-0.2524	0.9102	-0.1388
49	27	51.50	9	0.2330	-0.4576	0.5232
50	26	49.37	7	-0.0097	-0.6699	-0.6385
Total	1302	2804.68	405	39.8818	41.8322	38.4082
Average	26.04	56.09	8.1			

"Appendix H,"

Calculation of Z-score of Private Students

S.N.	Raw Score			Z-Score		
	Mc-Donald	"8" Dribbling	Lobbed Pass	Mc-Donald	"8" Dribbling	Lobbed Pass
1	27	46.94	8	-1.1781	-0.5685	-0.2222
2	28	43.99	7	-0.8908	-1.2472	-0.8395
3	25	47.34	8	-1.7528	-0.4963	-0.2222
4	27	42.34	7	-0.6034	-1.3989	-0.8395
5	29	51.69	10	-0.6034	0.2888	1.0123
6	25	53.19	12	-1.7528	0.5595	2.2469
7	29	56.22	10	-0.6034	1.1064	1.0123
8	34	60.42	8	0.8333	1.8646	-0.2222
9	26	55.28	9	-1.4655	0.9368	0.395
10	23	51.47	9	-2.3275	0.2490	0.395
11	32	62.24	7	0.2586	2.1931	-0.8395
12	27	54.02	9	-0.6034	0.7093	0.395
13	30	46.60	8	-0.3160	-0.6299	-0.2222
14	28	52.30	9	-0.8908	0.3989	0.395
15	33	42.12	8	0.5459	-1.4386	-0.2222
16	35	45.09	11	1.1206	-0.9025	1.6296
17	32	55.37	8	0.2586	0.9530	-0.2222
18	30	44.49	7	-0.3160	-1.0108	-0.8395
19	32	52.25	8	0.2586	0.3898	-0.2222
20	28	54.69	7	-0.8908	0.8303	-0.8395
21	33	41.59	10	0.5459	-1.5342	1.0123
22	34	51.12	8	0.8333	0.1859	-0.2222
23	32	49.38	8	0.2586	-0.1281	-0.2222
24	31	52.56	8	-0.0287	0.4458	-0.2222
25	24	49.04	7	-2.0402	-0.1895	-0.8395
26	36	40.74	8	1.4080	-1.6877	-0.2222
27	30	47.94	8	-0.3160	-0.388	-0.2222
28	32	55.65	9	0.2586	1.0036	0.3950

29	33	44.97	8	0.5459	-0.9241	-0.2222
30	29	49.35	10	-0.6034	-0.1335	1.01123
31	26	51.80	8	-1.4655	0.3086	-0.2222
32	24	56.51	9	-2.0402	1.1588	0.3950
33	34	44.65	9	0.8333	-0.9819	0.3950
34	30	50.27	9	-0.3160	0.0324	0.3950
35	30	54.28	8	-0.3160	0.7563	-0.2222
36	34	52.13	6	0.8333	0.3682	-1.4567
37	31	44.47	7	-0.0287	-1.0144	-0.8395
38	35	43.51	9	1.1206	-1.1877	0.3950
39	29	46.57	9	-0.6034	-0.6353	0.3950
40	33	60.82	8	0.5459	1.9368	-0.2222
41	24	52.58	9	-2.0402	0.4494	0.3950
42	33	46.53	8	0.5459	-0.6425	-0.2222
43	28	62.72	8	-0.8908	2.2797	-0.2222
44	33	43.45	7	0.5459	-1.1985	-0.8395
45	29	54.94	7	-0.6034	0.8754	-0.8395
46	30	50.01	11	-0.3160	-0.0144	1.6296
47	35	44.49	8	1.1206	-1.0108	-0.2222
48	29	51.16	9	-0.6034	0.1931	0.3950
49	28	48.57	8	-0.8908	-0.2743	-0.2222
50	33	44.86	7	0.5459	-0.9440	-0.8395
Total	1505	2504.71	418			28.5908
Average	31.1	50.09	8.36			

"Appendix I,"**Calculation of Z-Score and T-Score of Public Students**

S.N.	Z-Score			T-Score			Composite Score
	Mc-Donald	"8" Dribbling	Lobbed Pass	Mc-Donald	"8" Dribbling	Lobbed Pass	
1	0.9611	-0.7856	0.5232	59.611	57.856	55.232	172.699
2	-0.2524	0.9641	-0.6395	47.476	40.359	43.605	131.44
3	1.6893	-1.9092	-0.6395	66.893	69.092	43.605	179.59
4	-0.4951	-1.0109	-0.6395	45.049	60.109	43.605	148.767
5	-0.4951	1.1645	-0.1388	45.049	38.355	48.612	132.016
6	1.9320	-1.1136	-0.6395	69.32	61.136	43.605	174.061
7	1.6893	-1.4197	3.4302	66.893	64.197	84.302	215.392
8	-1.4660	-0.1645	-0.1388	35.34	51.645	48.612	135.597
9	-1.7087	1.2931	-0.1388	32.913	37.069	48.612	118.594
10	0.4757	0.2213	-1.2209	54.757	47.787	37.791	140.335
11	1.2038	1.3300	1.686	62.038	36.7	66.86	165.598
12	-0.2524	1.2761	-0.6395	47.476	37.239	43.605	128.32
13	0.2330	0.7178	-1.2209	52.33	42.822	37.791	132.943
14	-0.9805	-0.7367	0.5232	40.195	57.367	55.232	152.794
15	2.1747	-0.2043	2.2674	71.747	62.043	72.674	206.464
16	-0.2524	-0.33	-0.6395	47.476	53.3	43.605	144.381
17	0.7184	-0.1465	-0.1388	57.184	51.465	48.612	157.261
18	0.2330	-0.8414	0.5232	52.33	58.414	55.232	165.976
19	-1.2233	1.5663	-0.1388	37.767	34.337	48.612	120.716
20	-0.2524	0.5234	1.1046	47.476	44.766	61.046	153.288
21	-0.2524	0.5862	-1.2209	47.476	44.138	37.791	129.405
22	-0.7378	1.6889	-0.6395	42.622	33.111	37.791	113.524
23	-0.0097	0.4506	-1.8023	49.903	45.494	31.977	127.374
24	-0.9805	0.5104	0.5232	40.195	44.896	55.232	140.232
25	-1.4660	-0.7666	1.1046	35.34	57.666	61.046	154.052
26	-0.4951	-.09222	-0.1388	45.049	59.222	48.612	152.883
27	-0.7378	0.1595	-0.6395	42.622	48.405	43.605	134.632
28	0.9611	0.6799	-0.1388	59.611	43.201	48.612	151.424

29	1.4466	-2.2811	1.6860	64.466	72.811	66.86	204.137
30	1.6893	-1.5383	-0.1388	66.893	65.383	48.612	180.888
31	1.2038	-1.8664	0.5232	62.038	68.664	55.232	185.934
32	1.4466	0.7577	1.1046	64.466	42.423	61.046	167.935
33	1.6893	0.5842	-0.6395	66.893	44.158	43.605	154.656
34	0.4757	0.99	0.5232	54.757	40.1	55.232	150.089
35	-0.9805	0.2921	-0.6395	40.195	47.079	43.605	130.879
36	-0.0097	-0.1615	-0.1388	49.903	51.615	48.612	150.13
37	-0.2524	-0.3359	1.1046	47.476	53.359	61.046	161.881
38	0.4757	-1.1525	-0.1388	54.757	61.525	48.612	164.894
39	-0.7378	0.1266	-0.6395	42.622	48.734	43.605	134.567
40	-0.0097	0.0937	-0.1388	49.903	49.063	48.612	147.578
41	-0.9805	0.5264	0.5232	40.195	44.736	55.232	140.163
42	-0.0097	-0.0727	-1.8023	49.903	50.727	31.977	132.607
43	0.4757	0.1974	-1.8023	54.757	48.026	31.977	134.76
44	-0.0097	0.65	0.5232	49.903	43.5	55.232	148.635
45	-1.2233	1.9092	-0.6395	37.767	30.908	43.605	112.28
46	0.2330	-0.4356	0.5232	52.33	54.356	55.232	161.918
47	-1.7087	1.3399	-0.6395	32.913	36.601	43.605	113.119
48	-0.2524	0.9102	-0.1388	47.476	40.898	48.612	136.986
49	0.2330	-0.4576	0.5232	52.33	54.576	55.232	162.138
50	-0.0097	-0.6699	-0.6385	49.093	56.699	43.605	159.205
Total							7471.228

"Appendix J,"**Calculation of Z-Score and T-Score of Private Students**

S.N.	Z-Score			T-Score			Composite Score
	Mc-Donald	"8" Dribbling	Lobbed Pass	Mc-Donald	"8" Dribbling	Lobbed Pass	
1	-1.1781	-0.5685	-0.2222	38.219	55.685	47.778	141.682
2	-0.8908	-1.2472	-0.8395	41.092	62.472	41.395	144.929
3	-1.7528	-0.4963	-0.2222	32.472	54.963	47.778	135.321
4	-0.6034	-1.3989	-0.8395	38.219	63.989	41.395	143.603
5	-0.6034	0.2888	1.0123	43.966	47.112	60.123	151.201
6	-1.7528	0.5595	2.2469	32.472	44.405	72.469	149.346
7	-0.6034	1.1064	1.0123	43.966	38.936	60.123	143.025
8	0.8333	1.8646	-0.2222	58.333	31.354	47.778	137.465
9	-1.4655	0.9368	0.395	35.345	40.632	53.95	129.927
10	-2.3275	0.2490	0.395	26.725	47.51	53.95	128.185
11	0.2586	2.1931	-0.8395	52.586	28.069	41.395	122.05
12	-0.6034	0.7093	0.395	38.219	42.907	53.95	135.076
13	-0.3160	-0.6299	-0.2222	46.84	56.299	47.778	150.917
14	-0.8908	0.3989	0.395	41.092	46.011	53.95	141.053
15	0.5459	-1.4386	-0.2222	55.459	64.386	47.778	167.623
16	1.1206	-0.9025	1.6296	61.206	59.025	66.296	186.527
17	0.2586	0.9530	-0.2222	52.586	40.47	47.778	140.834
18	-0.3160	-1.0108	-0.8395	46.84	60.108	41.395	148.343
19	0.2586	0.3898	-0.2222	52.586	46.102	47.778	146.466
20	-0.8908	0.8303	-0.8395	41.092	41.697	41.395	124.184
21	0.5459	-1.5342	1.0123	55.459	65.342	60.123	180.924
22	0.8333	0.1859	-0.2222	58.333	48.141	47.778	154.252
23	0.2586	-0.1281	-0.2222	52.586	51.281	47.778	151.645
24	-0.0287	0.4458	-0.2222	49.713	45.542	47.778	143.033
25	-2.0402	-0.1895	-0.8395	29.598	51.895	41.395	122.885
26	1.4080	-1.6877	-0.2222	64.080	66.877	47.778	178.735
27	-0.3160	-0.388	-0.2222	46.84	53.880	47.778	148.498
28	0.2586	1.0036	0.3950	52.586	39.964	53.95	146.5

29	0.5459	-0.9241	-0.2222	55.459	59.241	47.778	162.478
30	-0.6034	-0.1335	1.01123	43.966	51.335	60.123	155.424
31	-1.4655	0.3086	-0.2222	35.345	46.914	47.778	130.037
32	-2.0402	1.1588	0.3950	29.598	38.412	53.95	121.96
33	0.8333	-0.9819	0.3950	58.333	59.819	53.95	172.102
34	-0.3160	0.0324	0.3950	46.84	49.676	53.95	150.466
35	-0.3160	0.7563	-0.2222	46.84	42.437	47.778	137.055
36	0.8333	0.3682	-1.4567	58.333	46.318	35.433	140.084
37	-0.0287	-1.0144	-0.8395	49.713	60.144	41.605	151.462
38	1.1206	-1.1877	0.3950	61.206	61.877	53.95	177.033
39	-0.6034	-0.6353	0.3950	43.966	56.353	53.95	154.269
40	0.5459	1.9368	-0.2222	55.459	30.632	47.778	133.869
41	-2.0402	0.4494	0.3950	29.598	45.506	53.95	129.054
42	0.5459	-0.6425	-0.2222	55.459	56.425	47.778	159.662
43	-0.8908	2.2797	-0.2222	41.092	27.203	47.778	116.073
44	0.5459	-1.1985	-0.8395	55.459	61.985	41.605	159.049
45	-0.6034	0.8754	-0.8395	43.966	41.246	41.605	126.817
46	-0.3160	-0.0144	1.6296	46.84	50.144	66.296	163.28
47	1.1206	-1.0108	-0.2222	61.206	61.108	47.778	170.092
48	-0.6034	0.1931	0.3950	43.966	48.069	53.95	145.985
49	-0.8908	-0.2743	-0.2222	41.092	52.743	47.778	141.613
50	0.5459	-0.9440	-0.8395	55.459	59.44	41.605	156.504
Total							8082.754

"Appendix K,"

**Calculation of Mean, Standard Deviation and Coefficient of Variation of
Composite Score of Community Boy Students**

S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$	S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$
1	172.699	541.9118	28	151.424	4.0160
2	131.44	323.2804	29	204.137	2993.95
3	179.59	910.2289	30	180.888	990.2350
4	148.767	-0.4264	31	185.934	1333.2721
5	132.016	-302.8992	32	167.935	342.8052
6	174.061	607.1788	33	154.656	27.4156
7	215.392	4352.3047	34	150.089	0.4475
8	135.597	-191.0753	35	130.879	343.7686
9	118.594	-950.2422	36	150.13	0.5041
10	140.335	-82.5372	37	161.881	155.2765
11	165.598	261.7276	38	164.894	238.5171
12	128.32	-445.21	39	134.567	-220.6116
13	132.943	-271.4915	40	103.578	-2101.4889
14	152.794	11.3838	41	140.163	-85.6920
15	206.464	3254.0179	42	132.607	-282.6769
16	144.381	-25.3915	43	134.76	-214.9156
17	157.261	61.4812	44	148.635	-0.6162
18	165.976	274.1011	45	112.28	-1379.3796
19	120.716	823.9196	46	161.918	156.2
20	153.288	14.9614	47	113.119	-1317.7626
21	129.405	-400.6002	48	136.986	-154.6043
22	113.524	-486.0261	49	162.138	161.7475
23	127.374	-82.7554	50	159.205	95.7462
24	140.323	-75.6917	Total	7471.228	27604.6256
25	154.052	21.4554	Average	149.42	
26	152.883	11.9923			
27	134.632	-218.6849			

$$\text{Mean}(\bar{X}) = \frac{\sum X}{N} = \frac{7471.228}{50} = 149.42$$

$$SD(\sigma) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{27604.6256}{50}} = 23.49$$

$$\text{C. V.} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{23.49}{149.42} \times 100\% = 15.72$$

"Appendix L,"

**Calculation of Mean, Standard Deviation and Coefficient of Variation of
Composite Score of Institutional Boy Students**

S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$	S.N.	Raw Score(X)	$X^2=(X-\bar{X})^2$
1	141.682	-398.7210	28	146.5	-229.5225
2	144.929	-279.5918	29	162.478	0.6855
3	135.213	-698.9149	30	155.424	-38.7630
4	143.603	-325.6942	31	130.037	-999.3817
5	151.201	-109.1816	32	121.96	-1575.2961
6	149.346	-151.3884	33	172.102	109.2443
7	143.025	-346.8906	34	150.466	-125.0818
8	137.465	-584.9142	35	137.055	-604.9140
9	129.927	-1006.3487	36	140.084	-465.0923
10	128.185	-1119.9062	37	151.462	-103.7953
11	122.05	-1568.16	38	177.033	236.6366
12	135.076	-704.0531	39	154.269	-54.4791
13	150.917	-115.1972	40	133.869	-771.7839
14	141.053	-424.2364	41	129.054	-1062.4992
15	167.623	35.6767	42	159.662	-3.9521
16	186.527	618.8651	43	116.073	-2077.2629
17	140.834	-433.3058	44	159.049	-6.7652
18	148.343	-177.0762	45	126.817	-1213.3378
19	146.466	-230.5538	46	163.28	2.6569
20	124.184	-1403.7011	47	170.092	71.2673
21	180.924	371.4870	48	145.985	-245.3922
22	154.252	-54.7304	49	141.613	-401.4813
23	151.645	-100.1	50	156.504	-26.4813
24	143.033	-346.5826	Total	8082.754	23998.6568
25	122.885	-1502.7252	Average	161.65	
26	178.735	291.8972			
27	148.498	-172.9751			

$$\text{Mean}(\bar{X}) = \frac{\sum X}{N} = \frac{8082.754}{50} = 161.65$$

$$SD(\sigma) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{23998.6568}{50}} = 21.90$$

$$\text{C. V.} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{21.90}{161.65} \times 100\% = 13.54$$

"Appendix M,"

Calculation of Z-Test

(i) Mc-Donald Soccer's Test

$$Z - test = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}} = \frac{31.1 - 26.04}{\sqrt{\frac{(3.48)^2}{50} + \frac{(4.12)^2}{50}}} = \frac{5.06}{\sqrt{\frac{12.1104}{50} + \frac{16.9744}{50}}} = 6.63$$

(ii) "8" Dribbling Test

$$Z - test = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}} = \frac{56.09 - 50.09}{\sqrt{\frac{(10.02)^2}{50} + \frac{(5.54)^2}{50}}} = \frac{6}{\sqrt{\frac{100.4}{50} + \frac{30.6916}{50}}} = 3.70$$

(iii) Lobbed Ball Test

$$Z - test = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}} = \frac{8.36 - 8.1}{\sqrt{\frac{(1.72)^2}{50} + \frac{(1.62)^2}{50}}} = \frac{0.26}{\sqrt{\frac{2.95}{50} + \frac{2.62}{50}}} = 0.78$$

(iv) Composite Score

$$Z - test = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}} = \frac{161.65 - 149.42}{\sqrt{\frac{(21.90)^2}{50} + \frac{(23.49)^2}{50}}} = \frac{0.56}{\sqrt{\frac{479.61}{50} + \frac{551.78}{50}}} = 2.69$$

"Appendix N,"

Formulae for Different Calculations

1. $Mean(\bar{X}) = \frac{\sum X}{N}$
2. $SD(\sigma) = \sqrt{\frac{\sum x^2}{N}}$
3. $C. V. = \frac{\sigma}{X} \times 100\%$
4. $Z - test = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$
5. $Z\text{-Score} = \frac{X - \bar{X}}{\sigma}$
6. $T\text{-Score} = 50 + 10Z$ (Number Based Event)
7. $T\text{-Score} = 50 - 10Z$ (Time Based Event)

Where,

X = Raw score

\bar{X}_1 = Mean of first Group

\bar{X}_2 = Mean of Second Group

σ_1 = Standard Deviation of first Group

σ_2 = Standard Deviation of Second Group

N_1 = Sample size of first Group

N_2 = Sample size of Second Group

C.V. = Coefficient of Variation