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Assessment of The Basketball Skills for Secondary School Students in Henan Province, China

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Abstract

Background and Aim: Henan Province is currently prioritizing sports, particularly basketball, offering numerous opportunities for youth to excel. Researchers are focusing on the evolution of basketball education in junior high schools across Henan Province, recognizing the sport's significance within the curriculum and its potential for student development.

Materials and Methods: The research study utilized a sample mean group consisting of students at the secondary school level 2 in 10 schools within Henan Province. The sample size of 302 students was determined using Krejcie and Morgan's ready-made sample table. This sample included 157 male students and 145 female students, selected through multi-stage random sampling. Test tool that Drib test, Harrison, Field Goal speed test of Johson and Wall Baunce test of Bunn statistic used parentage valve, Average ($\bar{x}$) Derivation (SD) and T score

Results: The assessment of basketball skills among male students in Secondary 2 in Henan Province for the 2023 academic year showed high proficiency. For dribbling in a zigzag, the mean was 25.99 with an SD of 1.63; for shooting a goal quickly, it was 15.10 with an SD of 1.79; and for receiving the ball against the wall, it was 13.39 with an SD of 1.58. For female students, a mean below 17.3 is considered a very high level (T score of 35), while a mean above 24.63 is considered a very low level (T score of 55 or more).

Conclusion: Advocates for athletes to prioritize physical training, mental preparation, and skill practice, highlighting the interconnectedness of body condition and mental state in athletic success.

Keywords: Skill Assessment; Skill Level Criteria; Basketball

Introduction

Basketball holds a significant place in Chinese sports culture, with a strong emphasis on player development starting from a young age. It is widely played and competes at all levels, from primary schools to professional leagues. China has excelled in international competitions like the Asian Games and the Olympics, with many Chinese players achieving success abroad in leagues like the NBA. (Chen, 2018)

The curriculum in Henan Province integrates basketball as a vital component, aiming to foster physical, mental, emotional, social, and intellectual development among students. Teaching emphasizes not just skills but also sportsmanship and teamwork. The government prioritizes physical education to promote health and reduce illness. (Fu, 2018)

Henan Province is actively promoting sports, particularly basketball, providing ample opportunities for youth to engage in physical activity and showcase their talents. Basketball associations and competitions are well-supported, contributing to the popularity of the sport. The focus on basketball education in junior high schools warrants attention and improvement to ensure students receive quality instruction and skill development. (Xu, 2020)

The researcher aims to assess the basketball skill levels of secondary school students in Henan Province, to inform curriculum development and enhance teaching practices. This study serves as a foundation for advancing the basketball curriculum to unlock the potential of students, teachers, and educational institutions in the future.

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Objectives

1. To study the basketball skills of second-year secondary school students, in Henan Province, China.
2. To establish normal criteria for the basketball skill level of second-year secondary school students, in Henan Province, China.

Literature review

China's Education System

The education system in China is one of the largest globally, with Chinese students comprising 20 percent of the world's student population. Since 1986, compulsory education laws require nine years of schooling, with approximately 93 percent of the population completing this requirement. Private investment in education is significant, similar to systems in the United States, France, and Thailand, making China an attractive destination for international students, particularly in cities like Beijing, Shanghai, Guangzhou, and Xiamen.

The Chinese government, through the State Council and Ministry of Education, has implemented various policies to regulate and improve education, including Introducing new policies by the State Council and Ministry of Education. Regulating after-school tutoring businesses. Promoting physical education. Implementing teaching reforms. Assigning homework to students. Undertaking additional educational reforms. Controlling after-school tutoring activities. Making changes to K12 education policies. Introducing new education policies since August 2020.

Specific organizational issues within China's education system include the development of comprehensive education. Expansion of educational pathways through university entrance examinations. Reforms in secondary school entrance examinations. Reduction of the burden on parents and students. Aim to improve educational equality and reduce costs. Improvement of childcare services for parents. Additionally, the Department of Physical Education, Ministry of Education, supports the establishment of sports clubs for health promotion and increased evaluation of sports performance. Policies include integrating physical education subjects into middle and high school examinations, providing guidelines for educational reform and assessment, proposing methods to evaluate student, teacher, and institutional practices, and expanding evaluation to areas like art, moral education, and life skills training. Furthermore, there are directions for systematically implementing teaching and learning strategies. (Wang, 2021)

Sports skills tests

Sports skills tests, as described by Robertson et. al. (2014), can be categorized into four groups:

1. Accuracy Tests: These assess precision in sports like basketball, volleyball, tennis, and penalty shots. They establish a rating system and are considered highly reliable and accurate.
2. Compliance Tests: These evaluate skills such as hitting a ball against a wall or in the air. They measure desired skills like hand-eye coordination and are reliable indicators of proficiency.
3. Physical Movement Tests: These measure speed and agility, commonly used in sports like basketball or football. They are highly reliable in assessing physical performance.
4. Power or Distance Tests: These assess strength and power, such as serving in badminton or pitching in softball. While effective, they require careful consideration of measurement accuracy.

Each type of test serves its purpose in evaluating specific aspects of sports skills, providing valuable insights for athletes and coaches alike.

The importance of the test

Ma (2019) outlines the essential capabilities required by instructors for effective testing and measurement:

1. Selecting reliable and accurate tools for assessment.
2. Choosing appropriate methods of measurement and evaluation.
3. Ensuring accuracy and confidence in test administration, data collection, and analysis.
4. Adaptability to modify tests according to student needs and understanding.
5. Developing meaningful tests with clear objectives.

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6. Creating tests independently while considering practicality.
7. Possessing statistical knowledge to interpret test results accurately.
8. Integrating tests into the teaching and learning process effectively.
9. Utilizing student grouping strategies.
10. Analyzing students' needs, weaknesses, and strengths.
11. Evaluating the effectiveness of teaching methods.
12. Assessing program effectiveness in teaching.
13. Providing ratings for student performance.
14. Motivating students through assessment practices.
15. Strategizing teaching methods based on assessment outcomes.
16. Engaging in predictive thinking regarding student progress.
17. Researching to improve assessment practices and teaching methodologies.

Basketball Skill Tests

The basketball skill test used in this research is as follows It has been said that the measurement of sports skills is an important foundation of treatment studies, which has been taken as a test for each person to team as follows:

1. Johnson studied 16 tests and tested them for reliability and validity, and finally selected 3 tests:
   1.1 Quick shooting
   1.2 Building for precision
   1.3 Raising children in a zigzag pattern
2. Tests has created a test to measure your ability to play basketball. It consists of a total of 6 tests. The test items are arranged in order from 1-6:
   2.1 Shooting under the sidebar
   2.2 Send pictures to hit the wall
   2.3 Put coins in the can
   2.4 Raising children around obstacles
   2.5 Stopping and turning
   2.6 Dribbling to score a goal

Lehsten created a test to measure the basketball ability of high school students consisting of 5 items.

1. run and avoid
2. Run 40 feet
3. Shoot a quick goal
4. standing high jump
5. Send a picture of the target

Harrison created a test that measures 4 basic basketball skills in the least amount of time and consists of 4 items.

1. shot
2. Basketball passing speed
3. Basketball dribbling
4. Jumping to catch a basketball

Johnson's Basketball Skills Test. (Xu 2018)

1. Test of quick shooting practice ceremony
   1.1 Have the test taker choose to stand under the basketball hoop according to their aptitude.
   1.2 When the start signal is received, shoot a goal as quickly as possible within 30 seconds.
   1.3 score 1 point per 1 shot on goal.
   1.4 The tester will demonstrate first and then have the test subject practice 2-3 times.

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Conceptual Framework

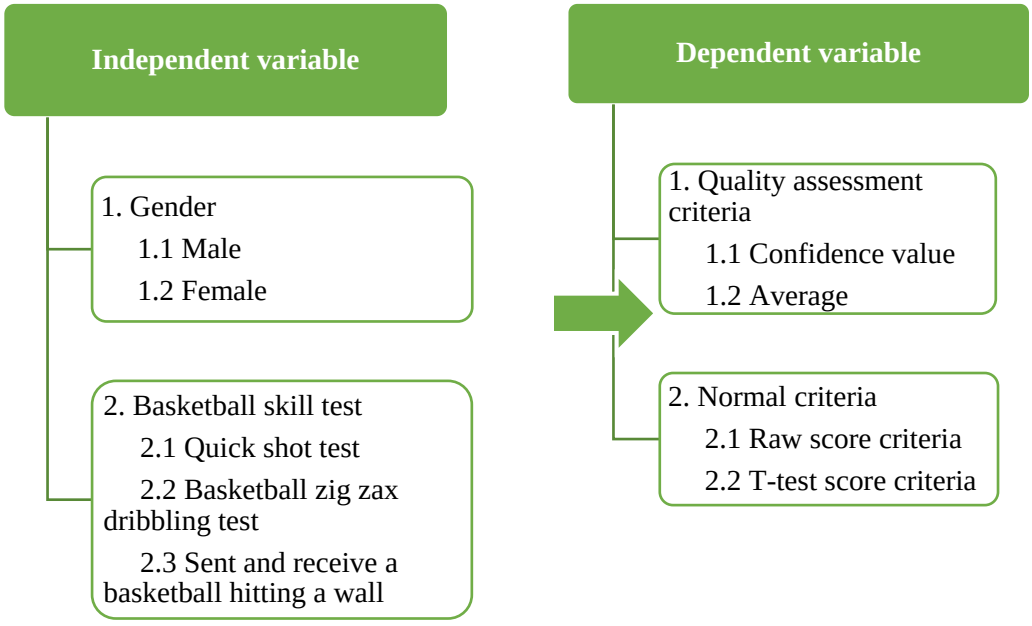

Figure 1 Conceptual Framework

Methodology

1. population

The population used in this research study was students studying in Secondary 2 of 10 schools in Henan Province, with 1397 students, 727 males and 670 females.

2. Example

Samples mean group used in this research study were students studying secondary school level 2 in 10 schools in Henan Province, obtained by opening the ready-made sample table of Krejcie and Morgan From the sample of 302 students, 157 were male and 145 female students were drawn by multi-stage random sampling there are steps as follows.

3. Sample groups of Grade 2 junior high school students studying basketball, both male and female, from 10 schools in Henan Province by sampling using Crazy and Morgan's ready-made tables. Population 1397 students, The number of sample 302 samples male 157 female 145

4. Variables Studied

4.1 The independent variable is gender, divided into

4.1.1 Male

4.1.2 Female

4.2 The dependent variables are

4.2.1 Quick shot test

4.2.2 Basketball Zig Zag Dribbling Test

4.2.3 Send and receive a basketball hitting a wall

5. Tool Marking Process

5.1 Take the 3 selected tests and consult with your thesis advisor.

5.2 Take the test to find the empirical reliability value from 3 experts.

5.3 Take all 3 tools and discuss them with the thesis supervisor and expert again.

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5.4 All 3 tests were tested to determine the reliability of the test by repeating the test with 30 students who were not from the original group.

6. Data Collection

6.1 Study details about the 3 skills tests in basketball.

6.2 Bring the letter to contact every school in the Military District to request permission to collect research data.

6.3 Arrange for an assistant to collect data to explain how to keep the data consistent.

6.4 An accurate assessment must clarify the objectives and demonstrate all 3 basketball skills to the test taker before taking the test.

6.5 Take the test according to the test to be as detailed and accurate as possible.

6.6 The results were tested and analyzed statistically.

6.7 Summarize the content and results from the research for further analysis.

7. Research Analysis

7.1 Find the confidence value of each test using the Pearson method as follows: Pearson's product Moment Correlation Coefficient

7.2 Find the mean and standard deviation

7.2.1 Mean ($\bar{x}$)

7.2.2 Standard deviation (SD)

7.3 Find the Norm criteria using T scores by dividing the levels of skill into 5, very high, Medium high, low, and very Low levels

Results

1. The basketball skill of second-year secondary school students, Henan Province, China

Table 1 Mean and standard deviation of each and all basketball skills of second too students in Henan Provincial School, academic year 2023

Students/Skill	Male		Female		Total	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Basketball Zig Zag Dribbling test	25.99	1.63	20.98	2.43	23.59	3.24
Quick shot test Basketball	15.10	1.79	11.01	1.62	13.14	2.67
Send and receive a basketball hitting a wall	13.39	1.58	14.38	1.36	13.87	1.56

Results of analysis according to table It was found that the mean and standard deviation of scores from the overall basketball skill test in the Basketball Zig Zag Dribbling test had a mean of 23.59 and a standard deviation of 3.24, with male students having a mean of 25.99 and a deviation of the standard deviation was 1.63 and the female students had a mean of 20.98 and a standard deviation of 2.43. The average speed of quick shot test Basketball was 13.14 and the standard deviation was 2.67. The male students had a mean of 15.10 and a standard term of send and receive a basketball hitting a wall, the overall mean was equal to 13.87 and a standard deviation of 1.56, with male students having a mean of 13.39 and a standard deviation of 1.58 and female students had a mean of 14.38 and a standard deviation of 1.3.

2. Normal criteria (Norm) Basketball skill level for each item and all items for secondary 2 students in Henan Province, academic year 2023

Table 2 Basketball skills level criteria table regarding basketball zig zag dribbling test

Skill level	**Male (157)**		**Female (145)**	
	Time/seconds	**T-Score**	**Time/seconds**	**T-Score**
higher	Less 23.55	35 Come down	Less 17.34	35-Come down
High	23.55-25.18	35-45	17.34-19.77	35-45

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Skill level	Male (157)		Female (145)	
	Time/seconds	T-Score	Time/seconds	T-Score
Middle	25.18-26.81	45-55	19.77-22.20	45-55
Low	26.81-28.44	55-65	22.20-24.63	55-65
Very low	More dan 28.44	65 Up	More dan 24.63	65 Up

Results of analysis according to table It was found that the basketball skill level criteria regarding dribbling, Basketball Zig Zag Dribbling test, and basketball base of secondary 2 students in Henan Province schools in the academic year 2023 were as follows: very high-level male students. Achieve a time less than 23.55, a T score of 35 or less, a high level has a time between 23.55 and 25.18, a T score between 35 and 45, a medium level has a time between 25.18 and 26.81, a T score between 45 and 55, a low level has a time between 26.81 to 28 244 T scores between 55-65, time was more than 28.44, score 65 and above, female students at very high level had time lower than 17.3.4, with P score 35 and lower, high level had time between 17.34 and 19.77. 77 to 22.20, T score between 45 - 55, low levels with time can be between 22 0 and 24.63-65, to 65 score and above.

Table 3 Basketball skills level criteria regarding quick shot test Basketball

Skill level	Male (157)		Female (145)	
	Time/seconds	T-Score	Time/seconds	T-Score
higher	Less 12.42	35 Come down	Less 8.58	35-Come down
High	12.42-14.21	35-45	8.58-9.91	35-43
Middle	14.21-15.99	45-55	9.91-10.82	43-49
Low	15.99-17.79	55-65	10.82-12.44	49-55
Very low	More dan 17.79	65 Up	More than More	59 Up

The results of the analysis according to the table found that the basketball sports level criteria of the skills regarding quick shot test basketball, Johnson's Basketball Test, of students in secondary 2 schools in Henan Province, the academic year 2023, are as follows: male students. Very high level, time less than 12.42, T score 35, high level, time between 12.42 and 14.21, T score between 35-45, medium level, time between 14.21 and 15.99, T score between 45-55, low level, normal. Between 15.99 and 17.79, T scores between 55 - 65 and very low levels can make times more than 17.79, scores t65 and above, while female students with very high altitudes can make times lower than 8.58, T scores of below, high levels can make Range between 8.58-9.91, T score between 10 35 and 43, medium level has a time between 19.91-10.82, score between 34.49, low level has a time between 10.82 and 12.44, score between 49 - 59, and very low level has a time more than 14.44. T score 59 and above

Table 4 Basketball skills level regarding sending and receive a basketball hitting a wall

Skill level	Male (157)		Female (145)	
	Time/seconds	T-Score	Time/seconds	T-Score
higher	Less 11.02	35 Come down	Less 12.34	35-Come down
High	11.02-12.60	35-45	12.34-13.70	35-45
Middle	12.60-13.68	45-55	13.70-15.06	45-55
Low	13.68-15.76	55-65	15.06-16.42	55-65
Very low	More dan 15.76	65 Up	More than 16.42	65 Up

The results of the analysis according to the table found that the basketball skill level criteria regarding sending and receiving a basketball hitting a wall, of secondary 2 students in Henan Province schools, the academic year 2023, are as follows: very high-level male students. Score less than 11.02, get a T score of 35, high level gets a time between 11.02 and 12.60, T score between 35-45, medium level gets a time between 12.60 and 13.68, T score between 45 and 55, low level gets a time between 13.68. to 15.76 T

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scores between 55 and 65 and very low levels made a time of more than 15.76 points t65 and above, while ordinary very high-level female students got less than 12.34 and a score of T35 down to a high level made a time between 12.34 and 13.7 0 T points Between 35-45, medium level has a time between 13.70 and 15.06, T score between 45-15 and 55, low level has a time between 15.60 and 16.42, T score between 55-65, and very low level can make a time of more than 16.42, T score of 65 and above.

Discussion

This research studied the basketball skills of male and female students. 3 items are the Quick shot test, the Basketball Zig Zag Dribbling test, and send and receive a basketball hitting a wall.

1. The results showed that the male and female basketball zig zag dribbling test scores which is considered that have a middle-level skill. It can be predicted that it may come from a physical condition that has not been trained, may be from a poor mental state, or maybe from a weak body, causing anxiety, the health of the body is not ready to play, so the skills are different, which is consistent with Rhodes, (2021). It has been said that if the body lacks training, anxiety will cause the body and mind to not be, and are anxious will not be able to score a goal because they have a lot of anxiety. If they have little anxiety, they may be able to score a goal.

2. The research findings reveal that male students exhibit medium-level ability in the Quick Shot test, while female students demonstrate a low-level ability. This indicates differences in individual skills and training in shooting accuracy. According to Kumar (2015), accuracy in shooting goals is a crucial aspect of basketball, influenced by factors such as body characteristics and coordinated muscle training. The development of shooting skills involves training the hand and arm joints to enhance coordination and achieve quality in basketball shooting.

3. The results indicate that both male and female students achieved a middle-level skill in the basketball hitting a wall test. This suggests potential stemming from practices such as meditation, imagery, and mental conditioning training, leading to improved precision in ball handling, consistent with Rahman, (2021). Positive meditation principles, along with imagery and physical conditioning, promote a strong mental state and enhanced concentration, essential for success in basketball, aligning with Corrado et al. (2020) who emphasize the importance of meditation in skill development through concentration.

Conclusion

This research study aims to establish standard values for the development of school athletes in Henan Province, focusing on observing male and female students' performance in specific skill tests related to basketball. The study suggests that a visible standard deviation (SD) value of more than 1 indicates a significant gap in athletes' skills, which could be attributed to factors such as inadequate preparation for practice or insufficient physical fitness. Basketball, being a sport requiring constant movement and strength, necessitates athletes to be physically prepared and attentive to their fitness. The study emphasizes the importance of physical fitness in basketball performance, highlighting that good body condition positively impacts test statistics. The conclusion suggests that athletes need to focus on physical training, mental preparation, and skill practice to excel in basketball and other related tests, underscoring the interconnectedness of body condition and mental state in athletic performance.

Recommendation

1. Conducting the test requires a team to help facilitate data collection so that the test does not cause problems and make the research incomplete.

2 . Testing and evaluation of student academic performance must be measured and evaluated completely in every process and according to the content of the curriculum.

3. Criteria that must be used to measure students' abilities must be studied in the following matters.

3.1 Experience of test takers

3.2 The age of the tester must be taken into account.

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3.3 The maturity of the test takers must be taken into account.
3.4 The structure of the test criteria must be considered whether it is appropriate or not.

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