

# Fusion of Basketball and Volleyball Game in Developing a Recreational Game

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## Abstract

This study aimed to fuse two sports as a basis in creating a recreational game which will be a supplementary activity for in-class and out-of-class physical education sessions. It utilized the fundamental skills of basketball and volleyball skills which focused on enhancing skills such as passing, receiving, setting, bounce passes, chest passes, and overhead passes. A qualitative descriptive methodology, incorporating content analysis and the Successive Approximation Model (SAM), was employed to assess the game's efficacy and feasibility. Data were collected through interviews, observations, and expert validation sessions, involving selected Junior High School participants from Iligan City National School of Fisheries. Findings demonstrated that the recreational game effectively improved players' basketball and volleyball skills, particularly chest and bounce passing, though proficiency in digging skills was slightly lower. Overall, the results highlight of the newly created recreational game as a promising tool for skill development in basketball, volleyball, and similar activities.

**Keywords:** innovation, recreational game, skill development, basketball, volleyball

## 1. Introduction

The promotion of sports within the Philippine school system is described in DepEd Order No. 25 s. 2015 demonstrates a commitment to both national and global concerns, such as the Sustainable Development Goals (SDGs) and the OECD educational frameworks. Sports and physical education should be regarded as the means to enhance the quality of people's lives, their ability to communicate, and the means to develop specific values like discipline and cooperation. These components are in line with various global concerns for enhancement of education and development of healthy communities. The new DepEd curriculum, known as "MATATAG Curriculum", is designed to prioritize literacy and numeracy in the first key stage of education. It builds upon previous initiatives and integrates evidence-based approaches to teaching and learning. This curriculum aims to equip learners with the foundational skills necessary for academic achievement and lifelong learning. The MATATAG curriculum guide for MAPEH subject has been compressed and the time given per day has lessened.

As a result, teachers do not have enough time to let their students master the basic skills of Basketball and Volleyball.

According to the study, even though the school was located in a physically positive environment, the

lack of technical equipment of basketball, qualified basketball field, and a large number of students per class made the school environment less appropriate to implement basketball. Likewise, the main bottlenecks in the basketball technical practical sessions in Grade 11 in Alamura Preparatory School were directly associated with school principals' lack of cooperation and commitment in light of motivating PE teachers and allocating enough budget and time for basketball technical practical sessions (Geletu & Wolde, 2018).

In addition, in terms of administrative factors, there was a seriousness in the problem of having inadequate equipment, inadequate facilities, and lack of financial support for a large class size numbering more or less 45 students in each class. While too many teaching loads, a lack of moral support from administrators, scheduling of physical education classes, and the class size were only "moderately serious." This implies that safe and effective instruction may become compromised.

To provide a solution on the problems mentioned above, this research proposed a recreational game that enhances individuals' basic skills in Basketball and Volleyball even outside the school premises. Developing a recreational game that aims to master the basic skills of the two most popular sports here in the Philippines and the most common sports taught in basic education will give aid to teachers who are in distress in allocating enough time to tackle all the topics provided in the curriculum guide for every quarter. For students and athletes who have potential in volleyball and basketball but do not have a chance to be trained to develop their skills because of the problems mentioned above, this newly proposed recreational game could help them.

### 1.1 Statement of the Problem

The main objective of this study is to develop a new game. Specifically, the study aims to answer the steps in designing a new recreational game.

### 1.2 Objectives of the Study

This study aims to innovate a new game taken from the two (2) recreational games. Specifically, it aims to achieve the following:

1. Assess the skills in Basketball and Volleyball.
2. Design a recreational game utilizing the basketball and volleyball skills in terms of the following:
  - 2.1 Game Terminologies
  - 2.2 Equipment of the Game
  - 2.3 Facilities of the Game
  - 2.4 Objectives and Rules of the Game
  - 2.5 Fault and Officials of the Game
3. Develop ground rules for the recreational game

### 1.3 Significance of the study

The following will benefit from the result of this study.

- **Students.** The study results will offer students a new and enjoyable physical activity that improves their general well-being, physical abilities, teamwork, and enjoyment, encouraging a lifelong love of sports.
- **MAPEH Teachers.** This enhancement recreational game will give them assistance to fill-in the insufficiency of equipment during physical education class. It will not be hard for them to do practicums since the equipment are accessible to everyone. This study will also provide them new ideas and strategies to instill to their learners.
- **School Administration.** This research will be a big help for them since their learners can still enjoy

and learn Physical education classes despite of the lack of funds in providing them the proper equipment and facilities. This study can be used as a guide to then for the improvement of their school.

- **Future Researchers.** For those who are planning to innovate games or sports, they can use this as their reference to their study. They will be inspired to innovate more games and discover new ideas and strategies for the betterment of our learners.
- **Game and Sports Innovators.** The study's results will motivate game and sports innovators to look into original ways to combine sports, which will result in the creation of brand-new, exciting, and health-promoting leisure activities.
- **Sports Equipment Manufacturer.** The findings will give sports equipment producers insightful information that will enable them to create specialized equipment specifically suited to the demands of the "Pasa Bola" recreational game, potentially creating a new market.

#### 1.4. Scope and Limitations of the Study

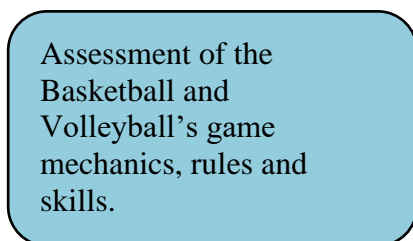
This study will focus on developing the newly developed recreational game. The game's development highlights describing its rules, equipment, officiating, scoring system, and the nature of the game.

The participants of this study are experts from the field of basketball and volleyball. The participants will evaluate the newly developed recreational game and will determine how the nature of the game played. The researcher will use purposive sampling to determine the ideal number of participants.

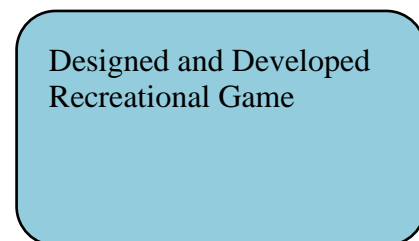
The study will have some limitations in gathering the data. First, the amount of time available for respondents to offer their opinions is a constraint. Second, it will be constraint by the requirement that respondents' informational responses be accurate and consistent.

#### 1.5. Conceptual Framework (IVDV)

##### Independent Variable



##### Dependent Variable



An IV-DV model conceptual framework refers to a theoretical structure that defines the relationship between an independent variable (IV) and a dependent variable (DV) within a research context. Such frameworks are crucial for understanding the impact of one variable on another and are commonly used in various fields of study (David et al., 2020). This study shows the acceptability and adaptability of the game (IV) and the playability of the game (DV). The main goal of this study is to develop a new game from the two games namely: Basketball and Volleyball.

## 2. Method and Material

In this study, qualitative descriptive research is employed to provide insights into the "who, what, and where" of events or experiences from a subjective perspective (Kim et al., 2017). This design is utilized to analyze the comments and suggestions provided by validators, as well as the experiences of students playing *Pasa Bola*, with data gathered through interviews and subsequently analyzed thematically.

## 2.1 Research Participants

Participants in this study are classified into two. First are the physical education teachers and coaches related to basketball and volleyball sports who were be considered as the experts. Their roles were to ensured that the rules of the recreational game, *Pasa Bola*, align with the fundamental principles of basketball and volleyball, assess whether the game is functional, safe, and feasible for recreational use and provide approval that the game is a valid and reliable tool for the development of basic basketball and volleyball skills.. The following criteria were used to choose the field experts:

1. Experts should hold relevant certifications, such as those from recognized governing bodies. These certifications ensure the coach understands the rules, tactics, and coaching techniques required for various levels of play.
2. Experts has experience coaching at various levels (youth, high school, collegiate, or professional). This allows them to understand the developmental stages of players and evaluate performance based on age-appropriate standards.
3. Experts have a solid playing background at the collegiate, semi-professional, or professional level. Having firsthand experience on the court helps them understand the game's nuances and better evaluate the newly created game.
4. Experts should have experience in sports development, including creating or adapting sports for new environments or demographics.
5. Experts must be open-minded and adaptable, with the ability to quickly grasp the nuances of a newly invented sport and visualize how it could evolve.

The second classified participants are the students. There were selected junior high school students from Iligan City National School of Fisheries for school year 2024-2025 who participated the study. Their role is to play the newly created game and they also assessed the playability of the game.

## 2.2 Research Instrument

This study will use a researcher-made instructional design following the IVDV Model. An IV-DV model conceptual framework refers to a theoretical structure that defines the relationship between an independent variable (IV) and a dependent variable (DV) within a research context. Such frameworks are crucial for understanding the impact of one variable on another and are commonly used in various fields of study. For instance, the Illinois Work and Well-being Model (ILW2M) presents a multi-domain framework emphasizing the interaction of contextual and career development domains for individuals with traumatic brain injuries (David et al., 2020). The whole process will be verified and checked first by the adviser after which, the design will be submitted to experts in the field of basketball and volleyball for their comments and suggestions. The researcher will then integrate all the suggestions and recommendations into the design before implementation. The researcher will perform pilot tests where course materials and instructional methods will be rehearsed. Feedback from these pilot tests will help identify weaknesses and enhance the entire program before implementation.

The student respondents participated in the game's pilot testing by using a volleyball-size court after the mechanics and regulations were authorized by the pertinent specialists. After a series of games, the researcher polled the student responders to determine the playability of the game.

### 3 Results and Discussions

#### 3.1 Objective 1: Assess the skills in Basketball and Volleyball..

##### Background of playing *Pasa Bola*

*Pasa Bola* is a combination of Basketball and Volleyball. *Pasa* is a tagalog word which means “to hand over” the ball. This game includes passing the ball from player 1 to player 2 until it reach player 10, the last player will shoot the ball into the ring. *Pasa Bola* is not only for fun but it also promotes fitness, build social connections and most importantly it helps teachers to let their students develop the basic skills of basketball and volleyball despite of the insufficient time they have during their classes.

*Pasa Bola* includes only two equipment, a ball that weighs 260-290gms and has a circumference of 27.5 inches and ring that stands 6 ft high with an inner diameter of 15 inches. The playing ground must be flat, it can have a smooth and rough surface as long it is safe from hazardous things and must playable by 10 players. Ten (10) players from each team form a two-line formation facing one another at a distance of three meters. Players must pass the ball to their teammates using volleyball's receiving skills until the last player positioned in the last line receives it. Then, the last player will shoot the ball on the ring that is 4 meters away from them. The objective of the game is to score as many points as possible by shooting the ball into the ring, which is equivalent to two points. Every team will have five minutes to perform, and the winning team will be the one with the highest number of points.

#### 3.2 Objective 2: Design a recreational game utilizing Basketball and Volleyball skills.

Mastering different skills in certain sports are the foundation for a successful athletic or sports competition. These are the techniques, abilities, and physical attributes that players use to perform at their best. Players must continually work on developing and enhancing their sports skills. The following are the identified basketball and volleyball skills present in this newly created recreational game.

**1. Serving.** The precision of serves in volleyball plays a crucial role in shaping the outcome of a match, potentially altering the game's dynamics, scoring points, and elevating the overall team performance (Mardila, 2024). In volleyball, the serve is the action of hitting the ball with the arm and directing it over the net into the opponent's court by the server placed in the serve zone (Suarez, Rabaz, Echeverria, Arias, & Moreno, 2017).

##### Overhand Serve

In volleyball goes beyond simply hitting the ball. It combines power, precision, and technique. When done correctly, it can elevate the serve from a basic start-of-play to an offensive tool. Unlike the underhand serve, the overhand serve offers more power and options in terms of speed, trajectory, and placement. Begin behind the service line. Stand with your feet shoulder-width apart, with the foot opposite to your serving hand slightly forward. This stance provides balance and power. Hold the ball in your non-dominant hand in front of you, slightly above your head. Your serving hand should be open, forming a firm but relaxed palm. Toss the ball upwards with your non-dominant hand. The height of the toss is crucial – it should be high enough to allow a full arm extension but not so high that it throws off your timing. As the ball reaches its peak, step forward with your front foot, bringing your serving arm back in a bowing motion.

Then, rapidly swing your arm forward, making contact with the ball. Strike the ball with the heel of your palm, focusing on a high contact point. Your arm should fully extend during the hit. Follow through with your arm and hand moving in the direction you want the ball to go, adding precision to your serve. Your entire body contributes to the power of the overhand serve. Coordinate your arm swing with a forward motion of your hips and a transfer of weight from the back foot to the front foot.

## 2. Passing

The act of passing a volleyball effectively is the cornerstone of the sport, setting the stage for a successful offensive play. Whether it's a quick bump to a teammate or a strategic set for a spike, each volleyball pass plays a critical role in the flow of the game.

### Forearm Pass

Is often referred to as the bump pass, is the most basic and frequently used pass in volleyball. It's typically used when receiving serves or the first contact after a spike from the opposing team. The key to a successful forearm pass in volleyball is the proper volleyball passing form. Players must position their bodies correctly, with knees bent and arms locked together, forming a platform with their forearms. This type of forearm pass in volleyball requires precision and control, as the goal is to direct the ball accurately to the setter or a specific location on the court.

## 3. Reception

The reception is one of the Volleyball Basics Fundamentals, it is the act of receiving the opposing service and passing the ball to the team setter. The reception is the first of three contacts allowed for each team (Costa, 2018). Players must know how to effectively return a serve in a live volleyball game. To advance in volleyball, it is a vital skill to learn how to react to various serves and improve ball control. Improving in these fundamentals can make a huge difference when effectively returning an opponent's serve. Perfecting these skills can often be the difference between a win and a loss in volleyball (Beltz, 2024).

## 4. Setting

In volleyball, the set is a fundamental skill that every player should master. Setting is the act of getting the ball to a teammate in a position to hit it over the net and score a point. It involves using your fingertips to direct the ball to your teammate (Anonymous, 2023). The proper setting position consists of both hands on the ball, with the pointer and thumb making a triangle, your feet should be staggered with a slight bend in your knees and your shoulders over your toes when receiving the ball.

## 5. Digging

A dig in volleyball is when an athlete makes a defensive play that keeps the ball from hitting the floor. Most of the time a dig is defined by how the defensive player plays a ball that has been spiked by the opponent. A dig is done when a hard hit ball is dug by a defender. The reason you want to dig in volleyball is to prevent the opponent from scoring a point. The better a team is at keeping the ball from contacting their teams court, the better chance the team has at winning the point (Jackson, 2023). A volleyball digger needs to always start in their athletic position. This position will enable a digger to be stable and balanced in order to move in any direction or dive for the ball. Volleyball diggers need to bend their knees to be close to the ground and have their hands in front of them. A dig in volleyball should always be performed with both hands, if possible. Two hands provide a much better tool for controlling the volleyball from going out of bounds. When a volleyball player is able to figure out where the ball is headed, they should put their arms and hands together. Make sure to never swing the arms when digging.

## 6. Shooting

Shooting is a science, as well as an art. To understand the fundamentals of shooting, it is necessary to understand the term "power line." This term refers to a line of power developed from the toe of the shooter all the way through the fingertips. Keep feet shoulder- width apart with the foot on the shooting side of the body toe-to- heel in front of the other foot; knees bent, hips square to target, and back

straight. The ball is held close to the chest and underneath the chin with the shooting hand a little more toward the back and slightly under the ball. The other hand is placed on the side of the ball and used only as a guide. Focus on a target whether that is the square on the backboard or the inside shiny part of the rim. Stay focused on this target. Don't watch the ball after the release. The ball is released by a quick extension of the elbow and a flick of the wrist and fingers of the shooting hand. (Follow through is like reaching up and putting your hand in a cookie jar) Ball should have back spin rotation which will enable the shooter to develop a softer touch.

### **7. Chest Pass**

Chest means the chest, chest pass is to give the ball to the manner in passings fella right in front of the chest (Nugroho & Raharjo, 2019). Chest Pass is a type of passing performed in front of the chest, faster and more accurate to reach a teammate who is the target for catching the ball (Rahmadani et al., 2019). To start, place your feet parallel to one another, about shoulder-width apart. Using both hands, hold the ball up to your chest. Remember to always tuck your elbows in. Take a step forward as you begin the passing motion. Either foot works, so this will be a matter of personal preference. Push off of your back foot to generate additional power for the pass. Keep in mind that the toes of your front foot should be pointing towards your target. Always end with the proper follow through.

### **8. Bounce Pass**

The basic bounce pass movement is the same as a chest pass, even though the situation when it is done is different. Bounce pass is often done in pivot games when players pass to their teammates guarded from behind, or in situations where chest passes are not possible (Rahmadani et al., 2019). The bounce pass consists of offensive action that occurs when a player in current possession of the basketball throws it with a sufficient amount of strength and at a certain angle to the floor so that a teammate can receive it, preferably near their chest or waist area. To execute the basic bounce pass, a player should be in a proper stance with both hands on the ball, step towards the receiver of the bounce pass, and release the ball by throwing it at an angle to a certain area of the floor, which is typically about half the distance between the player in possession of the ball and the receiver.

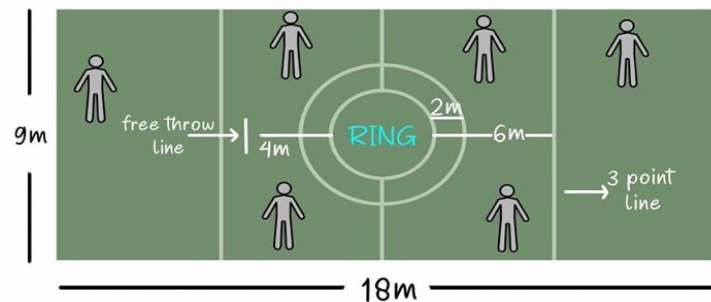
## **3.3 Objective 3: Develop ground rules for the recreational game.**

### **Developed Ground Rules for Pasa Bola.**

#### **Section 1. Definition of Terms**

- 1. PASA.** A Filipino term which means to “hand over” something.
- 2. BOLA** A Filipino term of the English word “ball” which means a round object that is used in sports.
- 3. SHOOTER.** Operationally, a player who throws the ball into the ring to score points in a game.
- 4. PASSER.** Conceptually, it means to “hand over”, operationally, a player who hand over the ball to its teammates.
- 5. RECEIVER.** Conceptually, it means who “received something”, operationally a player who receives the ball and pass it to its teammates.
- 6. ZONA.** From the Spanish word which means boundary or area with specific boundary.

## Section 2. EQUIPMENT



These are the equipment needed in playing *Pasa Bola*.

### a. Zona (Court) Playing Area

The playing area includes the playing court (zona) it shall be rectangular and symmetrical.

#### Dimensions

The playing court (zona) is a rectangle measuring 18 m long and 9 m wide and is surrounded by a free throw zone about 4 m away from the ring, a 3-point zone or area 6 m away from the ring and a 2 m line distance from the ring.

#### Playing Surface

The surface must be "at, horizontal, and uniform. It must not present any danger of injury to the players.

#### The line on the Court

The court (zona) in is carefully defined by lines that are 7.35 cm wide, ensuring clear visibility and are best painted with dark yellow. Curved line at the center will served as the 2 points shooting area.

### b. Bola (Ball)

1. The "bola" or the ball shall be spherical, made of synthetic.
2. Weight: 260-290gms
3. Dimensions: circumference of 27.5 inches



### c. Ring

1. The ring is made of bamboo.
2. Height: 8 ft
3. Dimensions: 15 inches in diameter
4. Net: lengths between 18 – 20 inches





### Section 3. Playing Action

1. A serve will be made as a sign that the game is in play.
2. The opposing team will receive the ball from the serving team using reception skills only.
3. The first contact of the ball after a successful serve will be count as the first hit.
4. A minimum of 2 hits and a maximum of 4 hits each team.
5. As soon as the team shoot the ball into the ring, a score of 1 point will be automatically added on the score.
6. If the ball will be shot from the 3-point area, a score of 3 points will be automatically added on the score.

### Section 4. States of Play

1. In play. After the Referee's whistle for service, the *Pasa Bola* is "in play" wants the contact for serve has been made.
2. Out of Play. The *Pasa Bola* is "out of play" once a fault has occurred and is whistled by a referee.
3. The ball is out of play when the team kicks the ball and goes out from the zona

### Section 5. Objectives of the game

1. Each team must prevent the ball touching the ground using the passing skills such as, Tossing, Reception, Chest pass and Bounce Pass.
2. The main objective of the game is to shoot the ball into the ring to gain points.

### Section 6. Rules of the game

1. The game is consist of two teams with 3 players each.
2. A maximum of six players and will be included on the official list for substitution.
3. All players must wear proper sports attire.
4. This game is a point system based, the first to reach 21points will be declare as the winner.
5. A change court will be done if one of the teams will reach 15 points.
6. Each team has 3 substitutions and 2 time – outs.
7. If a team will have 2 consecutive serve due to the fault done by the opposing team, they will be given 1 free throw.
8. If a team will commit 2 consecutive fault, another free throw will be given to the other team.

9. Free throw is equivalent is to 2 points.
10. Setting or Tossing skill are the only skill should be used in shooting within the 1 – point area.
11. Shooting skill in basketball should be used in shooting the ball within the 3-point area.

### **Section 7. Fault**

1. Mis - received – if a player did not receive the ball that falls inside their court it is called mis-received.
2. Double Contact - If the player has two consecutive contact of the ball.
3. Outside – If the ball went outside of the court.
4. Holding – If the players attempt to shoot and hold the ball for long using the tossing skill.

### **Section 8. REFEREEING CORPS AND PROCEDURES**

The refereeing corps for a match is composed of the following officials:

- a. 1 Referee,
- b. 1 Timekeeper,
- c. 1 Scorer
- d. 2 Lineman

#### **a. REFEREE**

##### **Responsibilities**

- i. The referee oversees the entire game
- ii. The referee enforce the rules of the game.
- iii. The referee is responsible for calling violations.
- iv. They are also responsible for granting timeouts and allowing substitutions.

#### **b. SCORER**

##### **Responsibilities**

- a. Fill in the score sheet as per the rules, cooperating with the referee.
- b. Before the game, register game and team data, obtain signatures of team leaders and coaches.
- c. Record the scores gained by the team.
- d. Record individual player performance, such as points scored, faults committed, and other key statistics as required by the game's rules.
- e. Ensure that players on the court are listed in the official roster and are eligible to participate.
- f. Inform referees of any discrepancies, such as incorrect score recordings, player fouls, or substitutions.
- g. Document the time and team responsible for each timeout, ensuring teams comply with timeout limits.
- h. Work closely with the timekeeper to ensure synchronization between the score and the game clock.
- i. Ensure the scoreboard reflects the official score and game status in real time.
- j. Clarify and resolve any scoring disputes with referees or team representatives.

#### **c. TIMEKEEPER**

##### **Responsibilities**

- a. Start, stop, and monitor the game clock accurately according to the rules, including for timeouts, and stoppages.
- b. Keep track of additional time, such as extra periods or injury time, and ensure it is added correctly.

- c. Clearly signal the start and end of each period of the game using a whistle, buzzer, or other designated tool.
- d. Record and manage team timeouts, ensuring they comply with the rules regarding number and duration.
- e. Collaborate with referees and officials to ensure the timing of the game aligns with the game's regulations.
- f. Maintain an accurate record of game stoppages, delays, or timing-related incidents for official reporting purposes.
- g. Remain attentive throughout the game to avoid errors in time management.

#### **d. LINEMAN**

##### **Responsibilities**

1. Determine whether the ball lands inside or outside the court boundaries on their assigned lines and signal the call to the referee.
2. Observe whether the server steps on or crosses the end line (foot fault) during a serve and signal any violations.
3. Stand in the correct position to have a clear view of their assigned lines and move as necessary to improve visibility.
4. Remain attentive throughout the match, avoiding bias and ensuring all calls are based solely on observations.

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