



# Development of Basic Pointing and Shooting Techniques: Leaflet Media as a Student Reference Basic to Improve Accuracy in Petanque

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## Abstract

Mastering the basic techniques of pointing and shooting is a key factor that determines performance success in the sport of petanque. However, the lack of practical, engaging, and easily accessible learning materials means that students do not yet have adequate references to learn the techniques on their own or during the learning process. This study aims to produce a learning guide leaflet for beginner students in the sport of Petanque. This research is a type of R&D study using the 4D approach. Data collection techniques include observation, literature study, and questionnaires. The data collection instrument used was a questionnaire with a validity score of 0.887 and a reliability score of 0.844. The study population consisted of 40 beginner students, with the sample selected using purposive sampling, resulting in a research sample of 40 subjects. The data analysis technique used quantitative descriptive statistics with the help of SPSS to process the questionnaire results. The analysis was done by calculating the average and percentage to find out the feasibility, practicality, and user response to the developed product. The results of this study show that: 1) students' responses to the exercise sheets in all assessment aspects had an average score of 4.2, with a rating of "agree" and practicality criteria rated as practical, and the average practicality score presentation of 84% was categorized as good; 2) Meanwhile, in the teacher evaluation, the average score was 4.18 and the practicality score was 83.6%, which falls into the "good" category. So based on the research results, it can be concluded that the leaflet on basic pointing and shooting techniques in petanque meets the practical criteria for use as a learning media. This finding implies that leaflets can be a practical alternative learning tool to support the learning process and help teachers and students understand the basic pointing and shooting techniques in a more systematic way.

**Keywords:** Accuracy, Leaflet Media, Petanque, Students.

## Abstrak

Menguasai teknik dasar mengarahkan dan melempar merupakan faktor kunci yang menentukan keberhasilan performa dalam olahraga petanque. Namun, kurangnya bahan pembelajaran yang praktis, menarik, dan mudah diakses membuat para peserta didik belum memiliki referensi yang memadai untuk mempelajari teknik-teknik tersebut secara mandiri atau selama proses pembelajaran. Penelitian ini bertujuan untuk menghasilkan selebaran panduan pembelajaran bagi peserta didik pemula dalam olahraga petanque. Penelitian ini merupakan jenis penelitian R&D yang menggunakan pendekatan 4D. Teknik pengumpulan data meliputi observasi, studi pustaka, dan kuesioner. Instrumen pengumpulan data yang digunakan adalah kuesioner dengan skor validitas 0,887 dan skor reliabilitas 0,844. Populasi penelitian terdiri dari 40 siswa pemula, dengan sampel dipilih menggunakan teknik purposive sampling, sehingga menghasilkan sampel penelitian sebanyak 40 subjek. Teknik analisis data yang digunakan adalah statistik deskriptif kuantitatif dengan bantuan SPSS untuk mengolah hasil kuesioner. Analisis dilakukan dengan menghitung rata-rata dan persentase untuk mengetahui kelayakan, kepraktisan, dan tanggapan pengguna terhadap produk yang dikembangkan. Hasil penelitian ini menunjukkan bahwa: 1) tanggapan siswa terhadap lembar latihan pada semua aspek penilaian memiliki skor rata-rata 4,2, dengan penilaian "setuju" dan kriteria kepraktisan dinilai praktis, serta skor rata-rata kepraktisan sebesar 84% dikategorikan sebagai baik; 2) Sementara itu, dalam evaluasi guru, skor rata-rata sebesar 4,18 dan skor kepraktisan sebesar 83,6%, yang termasuk dalam kategori "baik". Jadi, berdasarkan hasil penelitian, dapat disimpulkan bahwa selebaran tentang teknik dasar mengarahkan dan melempar dalam petanque memenuhi kriteria kepraktisan untuk digunakan sebagai media pembelajaran. Temuan ini menunjukkan bahwa selebaran dapat menjadi alat bantu pembelajaran alternatif yang praktis untuk mendukung proses pembelajaran serta membantu guru dan siswa memahami teknik dasar mengarahkan dan melempar secara lebih sistematis.

**Kata kunci:** Akurasi, Media Leaflet, Petanque, Siswa.

## Introduction

Petanque is a precision sport that requires optimal mastery of basic techniques. Pointing and shooting are two fundamental techniques that determine the quality of play and an athlete's performance. For students or beginners, mastering these two techniques requires a systematic, ongoing learning process supported by easy-to-understand learning materials. Without a solid understanding of the basic techniques, students will struggle to develop proper motor skills, resulting in a less-than-optimal training process. In physical education classes and petanque training programs at schools, the delivery of instructional material is still dominated by direct demonstrations from teachers or coaches. Although this method is effective for demonstrating movements, students often have difficulty recalling the technical steps when practicing on their own because there are currently no practical, concise learning materials available for use outside of practice hours. This situation highlights the need for learning materials that can help students understand basic concepts and technical steps in a more systematic way. Learning materials play a crucial role in improving the quality of the learning process because they can help present information in a more engaging, structured, and easy-to-understand manner. One such medium is the leaflet. Leaflets are simple, portable, relatively inexpensive to produce, and capable of presenting material in the form of concise text and illustrations, making them suitable as a learning reference for beginner students. Through systematic presentation of the material, leaflets are expected to help students recall the sequence of basic aiming and shooting techniques, both during independent practice and during the learning process

Petanque is a sporting discipline that emphasizes accuracy. This is indicated that the dominance of this sport is by throwing the ball closer to the target, namely pointing and keeping the opponent's ball

away from the target by shooting (Purnomo & Yendrizal, 2020). So a petanque athlete must practice pointing and shooting techniques correctly so that when doing both techniques they are right on target (Hanief & Purnomo, 2019). To improve the ability of a petanque athlete to the various types of basic techniques that apply in that sport, the athlete must follow a correct, structured and planned training process. Apart from good physical, mental and skill or mastery of basic techniques, this game really requires a good level of accuracy (Ardhiyanto et al., 2021). Because of good accuracy, it will greatly influence the movements that an athlete will perform, this will impact the mastery of the learning process at the cognitive, associative and automatic stages. Petanque is a sport where the dominant way of playing is throwing an iron ball (bosi) to get another ball closer to the target point in other terms, boka or wooden ball (Agustina & Priambodo, 2017). The development of petanque is currently growing rapidly in various parts of the world including Indonesia (Okilanda et al., 2018). In this sport, the principle of playing is not limited in terms of the identity of an individual, not much different from other sports such as football, volleyball, futsal and so on, which do not matter the factors of age, physicality, religion, gender and race (Irawan & Pangesti, 2020). Petanque can be played by all levels of society as a medium for recreation with family, friends, friends and other closest people (Sukawi et al., 2021). However, it is different if an individual becomes a professional petanque athlete, then he must take part in regular training to improve skills in mastering various basic techniques in this sport, shape his physique to be better and increase the accuracy factor in performing basic techniques (Rizal et al., 2021).

The basic technique is the first thing or the first movement experienced by an individual (Sari, 2021; Tsutsui & Takada, 2013). Talking about the basic techniques in a sport, the meaning will be the same,

namely the basics that must be mastered by an individual before learning other basic techniques (Saugel et al., 2014). In that sense, an individual is not justified in carrying out basic technique exercises starting from difficult techniques to techniques that are easy to do (Ahdan, 2020; Naimi et al., 2017). Therefore the role of the coach is needed to direct the athletes according to the level of the technique. The basic techniques in this sport are quite a lot, for example the technique of holding the ball and the technique of throwing the ball towards the target. However, the two techniques that are the main factors in bringing victory to an athlete are the pointing and shooting techniques. The two basic techniques in this sport are mandatory things that must be mastered by a novice athlete before learning other techniques as a complement in realizing a good technical movement. An individual is said to be a novice athlete, because the individual concerned has just joined a particular sport (Ebigbo et al., 2019). Therefore novice athletes need the right training methods and principles in mastering the techniques in these sports. The basic technique is the first thing or the first movement experienced by an individual (Sari, 2021; Tsutsui & Takada, 2013). Talking about the basic techniques in a sport, the meaning will be the same, namely the basics that must be mastered by an individual before learning other basic techniques (Saugel et al., 2014). In that sense, an individual is not justified in carrying out basic technique exercises starting from difficult techniques to techniques that are easy to do (Ahdan, 2020; Naimi et al., 2017). Therefore the role of the coach is needed to direct the athletes according to the level of the technique. The basic techniques in this sport are quite a lot, for example the technique of holding the ball and the technique of throwing the ball towards the target. However, the two techniques that are the main factors in bringing victory to an athlete are the pointing and shooting

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Exercise is a systematic sports activity for a long time, progressively and individually enhanced which leads to the characteristics of human physiological and psychological functions to achieve predetermined goals (Garnacho-Castaño et al., 2015). Meanwhile Fergus et al., (2017) said that training is a process of change for the better, namely improving the physical quality, functional ability, and psychological quality of an athlete. Good practice always refers to the basic principles of practice. The principles of training according to Bompa include: active participation, overall development, specialization, individualization, variation, models in the training process, load increases. Then according to Fleck and Kraemer the principles of training include: excessive loading, rest periods, specificity, variation of exercises, detraining, individualization. Leaflets are written printed teaching materials in the form of sheets that are folded but not turned off (Capponi et al., 2016). To make it look attractive, leaflets are usually carefully designed, accompanied by illustrations and use simple language, short and easy to understand. Leaflets as teaching materials must also contain material that can accompany students to master one or more basic competencies (Bellés-Fortuño, 2018). Leaflets can also be interpreted as a media in the form of a piece of paper with pictures and writing on both sides of the paper and folded so that it is small and easy to carry. The purpose of creating leaflets is an effort to convey information

through sheets of paper that contain information in the form of sentences, pictures, or a combination (Krajewska-Kulak et al., 2019). The contents of the message or information on the leaflet must be well understood by those who read it. This has an effect on the drafting system between: (1). Attention means that the message conveyed must attract the attention of the reader. (2). Need means that the message conveyed must meet the needs of the reader. (3). satisfaction, meaning that the message conveyed must be able to encourage the reader with completeness, clarity and so on. (4). Visualization, means that the message conveyed must be able to provide an image in the reader's mind. (5). Action, means that the message conveyed must be able to encourage the reader to act.

## Method

### Development Models

The method used in this research is research and development. The model used in the development of this book is the 4-D model development. The 4-D development model (Four D) is a development model developed by S. Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel. The 4-D development model consists of 4 main stages, namely: Define, Design, Develop and Disseminate. Each stage in the development there are activities that must be carried out.

### Research Procedure

The development procedure is an explanation of the predetermined development model. The steps taken in this study are as follows: 1) Define, including surveying and analyzing the problems of various petanque technique studies; 2) Design, designing a leaflet includes choosing a format; and initial design; 3) Develop, including Leaflet development; Expert validation; Product trials (small group and large group trials. In the Develop stage of small group trials, the researcher asks for responses from two

petanque athletes and one petanque trainer. Large group trials (field trials) are carried out in the training process. 4) Disseminate includes socialization of the use of leaflets.

## Data Collection Techniques and Instruments

Data collection method is a method used to obtain data. The data collection instrument is a tool that can be used by researchers to collect data (Naghiyae et al., 2020). In this study, the data collection method used was a non-test method using a questionnaire or questionnaire instrument. In this development research, researchers used several instruments in the context of product validity and practicality, namely:

### 1. Validity assessment instrument

The instrument used to assess the validity of the product, namely the Leaflet validation sheet which contains Guidelines, aspects assessed (in the form of scores), conclusions, suggestions for improvement, and value scales that meet valid or invalid criteria and questionnaire validation sheets of respondents' perceptions (players and coaches).

### 2. Practicality assessment instrument

The instrument used to assess the practicality of the product is a questionnaire, a survey on the perceptions of respondents (players and trainers) on the use of Leaflets.

## Data Analysis Technique

### 1. Product Validity Data Analysis

Analysis of the validation results performed by the validator is determined from the percentage of the average validity score using the following formula.

$$SV = \frac{\text{number of validator scores}}{\text{max score}} \times 100\%$$

SV = the percentage of the average score of the validation results

The conclusion of the data analysis is adjusted to the criteria as contained in the following table.

**Table 1.** Development Product Validity Criteria

| SV                        | Criteria   | Information        |
|---------------------------|------------|--------------------|
| $90\% \leq SV \leq 100\%$ | Very Valid | No Revision Needed |
| $80\% \leq SV < 90\%$     | Valid      | Need Revision      |
| $60\% \leq SV < 80\%$     | Less Valid | Major Revision     |
| $0\% \leq SV < 60\%$      | Invalid    | Not Usable Yet     |

(Kustiningsih, 2013:62)

## 2. Practicality Data Analysis

Analysis of the results of practicality carried out by the validator is determined from the average percentage score of the players and coaches' assessment questionnaire using the following formula:

$$SP = \frac{\text{total score of respondents}}{\text{max score}} \times 100\%$$

SP = percentage of average score

The conclusions of the data analysis are adjusted to the criteria for the percentage of the average score of the observations, which are presented in table 2 below:

**Table 2.** Product Development Practicality Criteria

| SP                        | Criteria  |
|---------------------------|-----------|
| $90\% \leq SP \leq 100\%$ | Very Good |
| $80\% \leq SP < 90\%$     | Good      |
| $65\% \leq SP < 80\%$     | Not Good  |
| $SP < 60\%$               | Bad       |

(Kustiningsih, 2013:63)

## Results and Discussion

### Results

#### Research Results Draft I

#### 1) Results of Design Expert Validation of Leaflets

**Table 3.** Analysis of Design Expert Validation Score Results on Leaflets

| No | Assessment Aspects | Score Obtained | Lots of Questions | Average | Criteria  | Information |
|----|--------------------|----------------|-------------------|---------|-----------|-------------|
| 1. | Writing Display    | 29             | 7                 | 4,14    | Good      | Valid       |
| 2. | Image Display      | 22             | 5                 | 4,4     | Very Good | Very Valid  |
| 3. | Design             | 24             | 6                 | 4,00    | Good      | Valid       |
| 4. | Format             | 21             | 5                 | 4,2     | Good      | Valid       |
|    | Amount             | 96             | 23                | 4,17    | Good      | Valid       |

The validation results show that the product received a total score of 96 with an average score of 4.17, which falls into the "good" category based on the validity criteria. The image presentation aspect received the highest score with an average of 4.40 (very good/highly valid), while the

text presentation, design, and format aspects received averages of 4.14, 4.00, and 4.20, respectively, which fall within the "good" and "valid" categories. Overall, these results indicate that the developed product meets the feasibility criteria and is suitable for use.

## 2) Results of Material Expert Validation of Beginner Athlete Training Guidelines Leaflet

**Table 4. Analysis of Material Expert Validation Results Scores on Leaflets**

| No | Assessment Aspects     | Score Obtained | Lots of Questions | Average | Criteria  | Information |
|----|------------------------|----------------|-------------------|---------|-----------|-------------|
| 1. | Content Eligibility    | 27             | 6                 | 4,5     | Very Good | Very Valid  |
| 2. | Content Scope Accuracy | 12             | 3                 | 4       | Good      | Valid       |
| 3. | Digestibility          | 13             | 3                 | 4,3     | Very Good | Very Valid  |
| 4. | Language Use           | 12             | 3                 | 4       | Good      | Valid       |
| 5. | Changeable             | 12             | 3                 | 4       | Good      | Valid       |
|    | Amount                 | 76             | 18                | 4,22    | Good      | Valid       |

The validation results show that the product received a total score of 76 with an average score of 4.22, which falls into the “good” category based on the validity criteria. The content appropriateness aspect received the highest score with an average of 4.50 (very good/highly valid), followed by the readability aspect with an average of 4.30 (very good/highly valid). Meanwhile, the aspects of content coverage accuracy, language use, and changeability each received an average score of 4.00, which falls within the “good” and “valid” categories. Overall, these results indicate that the developed product meets the criteria for suitability and validity for use.

### Research Results Draft II

The small group trial is a step in the development of draft II, the researchers asked for the responses of two Jambi petanque players and two Jambi petanque trainers.

### 1) Player Response Questionnaire Results

Based on the table. The score of the player's response to the Leaflet questionnaire is analyzed and presented in the following table

**Table 5. Result of Player Response to Leaflet**

| Player       | Score Obtained Assessment Perspect |                     |                                   |                       | $\sum x_i$     | N  | $\bar{x}$ | Criteria     | Practicality     |
|--------------|------------------------------------|---------------------|-----------------------------------|-----------------------|----------------|----|-----------|--------------|------------------|
|              | Exercise Design                    | Content Eligibility | Readability of Teaching Materials | Leaflet Visualization |                |    |           |              |                  |
| T            | 17                                 | 38                  | 32                                | 17                    | 105            | 25 | 4,2       | Agree        | Practical        |
| AN           | 17                                 | 39                  | 33                                | 16                    | 105            | 25 | 4,2       | Agree        | Practical        |
| $\sum x_i$   | 34                                 | 77                  | 65                                | 33                    | 210            | 50 | 4,2       | <b>Agree</b> | <b>Practical</b> |
| N            | 8                                  | 18                  | 16                                | 8                     | 50             |    |           |              |                  |
| $\bar{x}$    | 4,25                               | 4,27                | 4,06                              | 4,12                  | 4,2            |    |           |              |                  |
| Criteria     | Strongly Agree                     | Strongly Agree      | Agree                             | Agree                 | Agree          |    |           |              |                  |
| Practicality | Very Practical                     | Very Practical      | Practical                         | Practical             | <b>Praktis</b> |    |           |              |                  |

Based on the questionnaire analysis of the player's response to the leaflet with the aspects of training material design, content feasibility, leaflet readability and leaflet visualization, the results show that two aspects get an assessment that agrees with the practicality criteria is practical and two more aspects get an assessment that

strongly agrees with the practicality criteria that is very practical. While the player's assessment of all aspects obtained an average of 4.2 with an agreed rating and the practicality criterion was practical. As for the results of the presentation, the average practicality score was obtained: 84% in the good category.

## 2) Petanque Trainer Response Results

Following are the score of the Petanque Coach response questionnaire to the leaflet.

**Table 6. Results of Petanque Trainer's Response to the Training Guidelines Leaflet**

| Coach        | Scores Obtained Per Aspect of Assessment |                     |                     |                       | $\sum x_i$       | $N$ | $\bar{x}$   | Criteria     | Practicality     |
|--------------|------------------------------------------|---------------------|---------------------|-----------------------|------------------|-----|-------------|--------------|------------------|
|              | Exercise Design                          | Content Eligibility | Leaflet Readability | Leaflet Visualization |                  |     |             |              |                  |
| F            | 17                                       | 39                  | 32                  | 16                    | 104              | 25  | 4,16        | Agree        | Practical        |
| EK           | 17                                       | 39                  | 33                  | 16                    | 105              | 25  | 4,2         | Agree        | Practical        |
| $\sum x_i$   | 34                                       | 78                  | 65                  | 32                    | 209              | 50  | <b>4,18</b> | <b>Agree</b> | <b>Practical</b> |
| $N$          | 8                                        | 18                  | 16                  | 8                     | 50               |     |             |              |                  |
| $\bar{x}$    | 4,25                                     | 4,33                | 4,06                | 4                     | <b>4,18</b>      |     |             |              |                  |
| Criteria     | Strongly Agree                           | Strongly Agree      | Agree               | Agree                 | <b>Agree</b>     |     |             |              |                  |
| Practicality | Very Practical                           | Very Practical      | Practical           | Practical             | <b>Practical</b> |     |             |              |                  |

The questionnaire analysis of the response of the petanque trainer to the leaflet showed that two aspects received a rating of strongly agreeing with the practicality criteria, namely very practical and two aspects that received an assessment that agreed with the practicality criteria, namely practical. While the Petanque Trainer's assessment of all aspects obtained an average of 4.18 with an agreed rating and the practicality criterion was practical. As for the results of the presentation, the average practicality score was obtained: 83.6% in the good category.

## Discussion

The results of this study show that the success of a learning medium is determined not only by the use of digital technology but also by the medium's ability to convey information in a simple, systematic, and easy-to-understand manner that students can use independently. In the context of physical education, learning media serve as facilitators that help students understand movement concepts before practicing on the field. The basic techniques of aiming and throwing in the sport of petanque are skills that require an

understanding of body position, ball grip, arm swing, release point, and target accuracy. If students receive only verbal explanations during instruction, they tend to forget this information easily. Therefore, the availability of the leaflet provides students with the opportunity to review the material at any time, thereby making the learning process more effective. This finding is also relevant to the 21st-century educational paradigm, which emphasizes student-centered learning. In this paradigm, teachers are no longer the sole source of learning but rather act as facilitators who provide various learning resources so that students can learn independently. The handouts developed in this study support this concept because they can be used as learning references before, during, and after practical activities. Thus, students have the opportunity to review the material independently, which ultimately enhances their understanding of the basic techniques of petanque.

The need for practical learning materials is growing as the demand for flexible learning increases. Schools are now expected to provide learning materials that are easily accessible, cost-effective, and usable in a variety of settings. Although digital media is advancing rapidly, not all schools have adequate technological resources. Furthermore, in physical education which is largely conducted outdoors the use of digital media is often ineffective due to limited devices or field conditions. Leaflets are a relevant alternative because they are easy to carry, require no electronic devices or internet connection, have relatively low production costs, and can be used immediately during practical sessions. These conditions make leaflets a suitable medium for supporting equitable quality in physical education. Based on the research findings, the practicality aspect received positive evaluations from both teachers and students. This indicates that the leaflet design has been able to meet users' needs

in terms of appearance, language, and presentation of material. The inclusion of technical illustrations accompanied by brief explanations helps students understand each stage of the movements step by step. The simplicity of this medium is actually an advantage because information can be absorbed more quickly without overwhelming students with overly lengthy explanations. Thus, the leaflet serves not only as an informational medium but also as a self-study guide that can improve students' readiness before practicing basic techniques.

The novelty of this study lies in the development of a leaflet specifically designed as a learning guide for the basic techniques of aiming and throwing in the sport of petanque for beginner students. Most previous research on petanque has focused primarily on the effects of training methods, learning models, or the development of technical skills and accuracy through physical training. This study offers a different approach by developing student-centered printed learning materials as a resource for independent study. Furthermore, the developed product has undergone instrument validation, practicality testing by teachers and students, and utilized the 4D Research and Development (R&D) model, resulting in a systematic learning resource aligned with the characteristics of physical education instruction. Another contribution of this study is providing an alternative learning resource for the sport of petanque, which currently still faces a shortage of specialized learning materials for school students. Most petanque materials are still in the form of general guidebooks or direct explanations from coaches, while simple, concise, and easy-to-understand learning materials remain relatively limited. Therefore, the leaflet developed can fill this gap while also serving as a learning reference that is easy to implement in schools.

## Conclusion

Based on the results of this study, it can be concluded that the leaflet-based learning material developed features a layout, content, language, and presentation that are easy to understand, thereby effectively supporting teaching and learning activities. The development of this leaflet provides a simple, easily accessible, and cost-effective alternative learning resource that can be used independently by students or as a supplementary tool for teachers in explaining the basic techniques of petanque. The availability of the leaflet also enriches the variety of physical

education learning materials, particularly in the sport of petanque, which still lacks structured learning resources for beginner students. However, this study was limited to testing the practicality of the product and thus did not thoroughly examine the effectiveness of the leaflet in improving technical skills or accuracy in playing petanque. Therefore, future research is recommended to test the effectiveness of the medium through experimental designs and to develop the leaflet into a digital format or interactive medium integrated with instructional videos to provide a more comprehensive learning experience.

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