

Development Of Game Model Number Five Event In Sepak Takraw Branch In Central Java Players

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Abstract: This study aims to develop a new product for the Panca event game at the student level sepak takraw branch, and test the effectiveness of the new product for the Panca event game at the student level sepak takraw branch. This research method uses a research and development (R & D) model approach. The research design uses the Borg & Gall development model approach. With ten steps: Research and information collecting, the results of the needs analysis show the need for an effective, innovative game update that can be played by all players. 2) Planning, making a research plan by forming a team according to the expertise needed to assist the process of developing research products. 3) Develop a preliminary form of product, create a design model for the five-event game regulation guidelines accompanied by pictures in the form of a guide text book. 4) Preliminary field testing, testing early stage products involving 20 players as test subjects. 5) Main product revision, improving the developed product that has been tested. 6) Main field testing, re-testing the product with a larger number of players with 12 groups or 60 players. 7) Operational product revision, improving the product developed based on suggestions and input on field trials. 8) Operational field testing, the effectiveness test involves 80 players by comparing the previous numbers, quadrant, squad, double and five events, each number has four groups. 9) Final product revision, perfecting the five event products before they are disseminated. 10) Dissemination and implementation, this research has been socialized in FGD with the Central Java provincial government and in seminars or through international journals. The data analysis technique in this study used multivariate ANOVA (MANOVA) analysis. The results of this study are in the form of a product of the development of the five event game. This Panca Sepaktakraw event deserves to be a Sepaktakraw match number because the test results have proven to be effective..

Keywords: Sepaktakraw, Panca event, Central Java Players

1. Introduction

Development in the field of sports is accelerating, in line with the development of science and technology. Sepaktakraw branch is one of the rapidly growing sports in Southeast Asia even in Indonesia since 1983, this is evidenced by the existence of (Pengda) Regional Manager or now named (Pengprov) Provincial Manager, and Footballtakraw Association throughout Indonesia (PSTI). The rapid development of Sepaktakraw sport in Indonesia is less followed by efforts to optimally utilize the development of science and technology (IPTEK) sports, especially in training methods to improve techniques in sepak takraw games. Science and technology play a big role in improving the achievements of today's sport.

Along with the innovation of the development of the era, sports science is needed in the world of improving sports achievement at an early age, so that coaches, physical education teachers will be greatly helped by the type of game development for the number of numbers on sepak takraw games. Now this sport should be seen as an opportunity where public health is at the bottom of the benefits. This means that it must be fulfilled, while achievements only follow if our society already has a good sports culture. Not only a shortcut to the success of sports in a Country is something that must be realized by the stakeholders of government, especially in the Ministry of Youth and Sports (Kemenpora).

Sepaktakraw is one of the sports of Indonesian cultural heritage that needs to be preserved by the nation's children. This game is very unique because it has acrobatic movements displayed by the players or athletes so that it looks very beautiful when played. Along with the coaching of the sport of sepak takraw that continues to run in each region, currently produces a considerable number of athletes, from the results of coaching there are athletes of student age who excel at the national and international level, the athletes can participate in the Asean Schools Games held annually. Recorded at the student level of the last 3 years, Sepaktakraw Indonesia was able to win silver and bronze medals alternately with Malaysia, while Thailand still continues to dominate as the champion

Players in the game sepak takraw have their own task, tekong standing in the middle between the right and left flanks in charge of doing the starting football or service to the opponent area, this is the first attack carried out by a team or squad, Meanwhile the left flank stands on the left as well as the right flank, the task of the right flank is

usually as a feeder and the left flank as a spiker or smasher, but does not close the possibility of the coach making a right flank strategy as a spiker and left flank as a feeder.

Sepaktakraw game to start the first time the ball is served or crossed through the net to the opponent's field after that through a pass from foot to foot or using thighs and head of the ball then crossed again towards the opponent who performed the service with smesh technique until one of the squad could not return the ball (Hanif, 2016). When the opponent performs the main service of all players is to receive the first ball or defend. Defending is also the first step before the player counterattacks through Smesh, the success of the player as a tekong or a player who performs the service is very important because the points obtained with good service, accurate, hard and able to produce numbers for the squad. At the elite athlete level at the Asean and International level the competition is getting tighter through the Sea Games, the Asian Games coupled with the King's Cup World Championship which is routinely held by Thailand every year, as well as other advanced competitions namely ISTAF Super Series held alternately in each country.

With the existing problems with the rules that are still standard, researchers have problems so that the idea arises, a good solution, right for novice players, especially to start learning to play sepaktakraw that researchers modify later for breeding, the inclusion in the pattern of coaching in this sport sepaktakraw, because with this new game that researchers will develop this, later can be used for the learning process in schools so that teachers can apply modification games that researchers develop.

The number of complaints in playing sepaktakraw is very difficult, hard ball becomes one of the alternative researchers to modify a new game model that will later become a solution for elementary school students as well as for beginners in playing sepaktakraw sports. Therefore, researchers tried to make a new sports modification in the game sepaktakraw namely "Panca Event" played by five people with modifications to the game sepaktakraw, where the game is able to accommodate each player can perform alternate services with the rotation of players as well as the pattern of service rules in the game volleyball, blocks or balls that bounce player does not count, making it easier for players to play longer and more fun games, so that viewers can enjoy the game.

1.1.Theoretical Studies

Development research according to (Borg and Gall, 1998), in his book (Sugiono, 2015), states that "What is research and development?. It is a process used to develop and validate educational products". Research and development is a process / method used to validate and develop products. In this case the product in question is not only one in the form of objects such as textbooks, films for learning, and computer software, but also teaching methods and programs, such as educational programs.

(Sugiono, 2015), Development research serves to validate and develop products. Validating a product means that it already exists, and researchers are only testing the effectiveness or validation of that product. Developing a product in a broad sense can be either updating an existing product (thus becoming more practical, effective and efficient) or creating a new product (which has never existed before).

In his opinion (Aziz et al., 2003) in his research Sepaktakraw: A Descriptive Analysis of Heart Rate and Blood Lactate Response and Physiological Profiles of Elite Players, Sepak takraw is a sport in which there are movements from other branches such as football, badminton, and gymnastics. The game is performed by two opposing teams. Each squad consists of three players separated by the net. As a team sport, sepek takraw is a game played in a rectangular field, flat, either open (outdoor), or closed (indoor), either on a hard field or sand free from obstacles, with a takraw ball with all limbs except hands, played in a field of four rectangles played by each team there are 3 players, and the ball should not touch the ground (Hanif, 2016).

According to (Hanif, 2016) Sepaktakraw or commonly abbreviated as "takraw", commonly referred to as "kick volleyball" or "soccer volleyball". The sport is like a combination of football and bolavoli, which is held on a field the size of a badminton court by two teams of three players in each team with a five-foot-high net separating the two teams. Each team has a chance to touch the ball three times, which is woven, using the legs, knees, shoulders, or head before crossing the ball into the opponent's game.

Panca Event is a modified number of sports games in which there are movements from other branches such as volleyball, football, badminton, and gymnastics. The game is performed by two opposing teams. Each squad consists of five players separated by the net. As a team sport, Panca event is a game played in a rectangular field, flat, either open (outdoor), or closed (indoor), either in a hard field or sand free from obstacles, with takraw balls with all limbs except hands, played in a rectangular field played by each team there are 5 players, and the ball should not touch the ground.



Figure 2.8 Panca Event Game Source: Field Trial Results In Research

2. Research Methods

The subjects in this study were from PPLP Semarang, Pelatda PON Jateng, Club from Kendal, Club from Jepara, Club from Demak who joined the Sepaktakraw League in Central Java in 2018/2019. To do this research & development, researchers are required to be able to choose and combine various relevant research methods. At the time of the initial study, researchers will use survey methods, case studies, previous research results, and others. The data used in this study were collected in both questionnaires, observations and documentation

3. Result and Discussion

Based on observations on the field of sepak takraw games that exist today with the number of double groups (2 people), squads (3 people), and quadrants (4 people) there is a sense of saturation in every game. In the early stages of the forum group discussion (FGD) was conducted early with the management of sepak takraw at the provincial level of central Java, sepak takraw coaches, outstanding coaching (BINPRES), sepak takraw referees, and sepak takraw athletes. The FGD from each element is taken by representatives to represent its ranks so that there are 40 people in the FGD.

Table 1. Results of Analysis of Needs of Discussion Group Forum (FGD)

NO	Statement	Alternative Answers				Score Max	value	information
		4	3	2	1	400	%	criterion
1	The need to modify the existing sepak takraw game	32	8			352	80	agree
2	modification of the rules of the game sepak takraw	34	6			374	85	Strongly Agree
3	modification of existing infrastructure, field	32	8			352	80	agree
4	modification of the number of players	32	8			352	80	agree
5	modification of the service rules of the game sepak takraw	33	7			363	82,5	necessary
6	rule modifications dosmash	30	10			330	75	proper

7	modification of the rules of the game block sepak takraw	35	5			385	87,5	Very decent
8	sepaktakraw as entertainment	34	6			374	85	Very decent
9	old sepak takraw games that long need modification	30	8	2		330	75	proper
10	sepaktakraw game for all circles of society	36	4			396	90	Very decent
	that is easy for anyone to play							
11	sepaktakraw games that can attract the public to entertain	38				418	95	Very decent

The results from the table (FGD) of the discussion group forum in the discussion of the product design for the development of the five event game, resulted in a concept model designed by the researcher from the needs analysis in the field, according to these results with the number of subjects including, provincial administrators, Binpres, coaches, referees and players, from each representative involved in the needs analysis process through the FGD, the majority of indicator items are feasible to be developed with the new game being a spectacle, entertainment, interesting alternative, FGD results statement; 1) the need for modification of the sepak takraw game by 80% or 32 respondents want modification, 2) modification of the game rules as much as 34 or 85%, 3) modification of infrastructure facilities as much as 32 or 80% are eligible to be modified, 4) modification of the number of respondent players as much as 32 or 80 % wanted a modification of the number of players, 5) modified the service rules, or 82.5% wanted a change in the service rules, 6) modified the smash rules in the game, 30 or 75% were eligible for a change in the rules of the player's attack line, 7) modified the rules blocks as much as 35 or 87.5% are eligible for a rule change with blocks not being counted, 8) sepak takraw as entertainment in recreation, respondents are very worthy as public entertainment, amounting to 34 or 85%, 9) modification of the old rhythm of the game, as much as 30 or 75 %, it is feasible to look for a model that can be a spectacle so that the game does not get bored and monotonous in the duration of the game, 20) the ease of playing sepak takraw, resp Onden wants an easy game, draws 36 or 90 very well with a game that will be modified with the ease of the rules of the game. 11) the game of sepak takraw to attract public interest, as many as 38 or 95% of the people really want modifications to new games that become hobbies, entertainment for the wider community from an early age, teenagers and are already professional to make sepak takraw an alternative sport, entertainment and sports achievement.

The design was developed based on the analysis of the needs of the team interview results from experts, namely sepak takraw coaches, sepak takraw lecturers, sepak takraw referees and central Java sepak takraw administrators as well as conducting preliminary research studies with FGD accompanied by the results of questionnaires that produced a lot of input from coach interviews and from peers. Emerging ideas based on data in the field to modify the creation of the initial product design

Planning the development of sepak takraw games with new numbers of five events includes the concept of facilities and game equipment rules, the concept of the number of participants, and the concept of game rules. In the planning phase the researchers involved a team of sepak takraw experts, national referees and sepak takraw lecturers who were involved in the process of analyzing product design in the preparation of product planning before being tested. In addition, the support team is also involved for photo, video and game evaluation data retrieval in the process of retrieving test data in the field. Researchers prepare a schedule of preparation for field data collection, interviews of coaches or experts and managers of Central Java sepak takraw to plan the research preparation process.

The initial product development in this study was based on the evaluation of sepak takraw game numbers, from game rules, service, number of players, player rotation system, game characteristics, so that players can use the game to be improved through five-event games with game rules guidelines, training models and game tactics and strategies.

Panca Event Is a type of football number played by two teams or teams, in a game arena separated by the net, a modified game between a game of sepak takraw and volleyball that uses each player to do one touch, a maximum

of three touches in one team, and can use all limbs except hands, service is done behind the line, exactly the same as the service rules in quadrant numbers and Double Event.

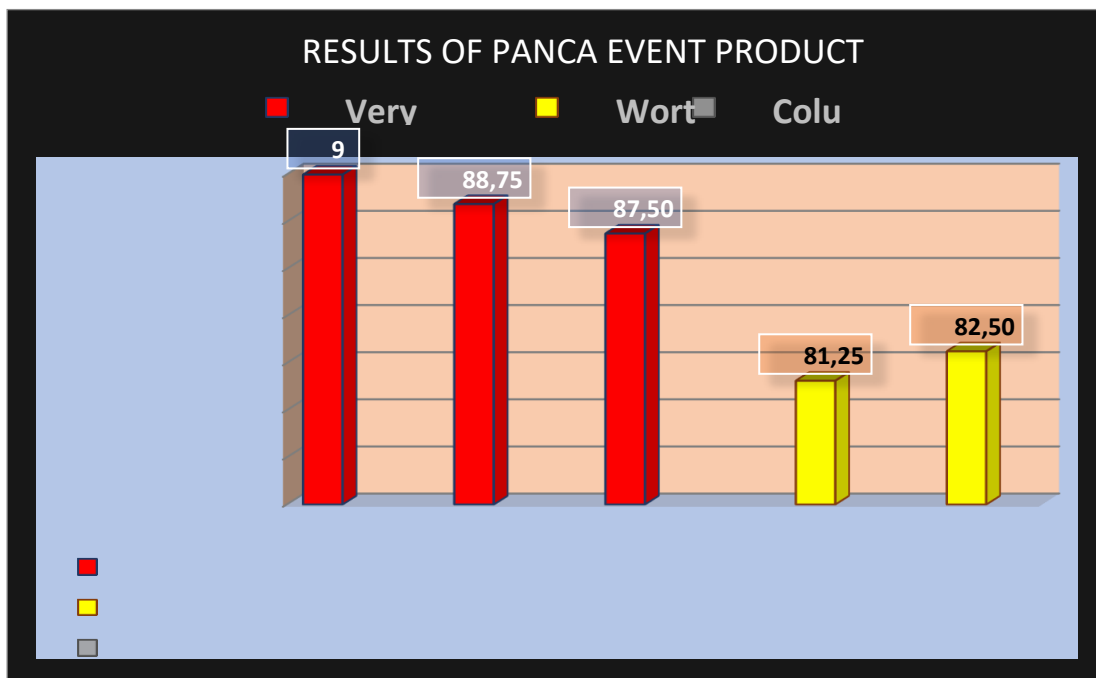
The goal of the game itself is to miss the ball over the net in order to fall to the floor in the opponent's field area, and prevent the opponent from being able to do so. A team or team can do 3 touches/ bounces returning the ball (as well as block touches).

The ball is said in the game if the service is declared to go through the net to the opponent's field, the game continues so that the ball until it hits the floor, "out" or a team fails to return the ball perfectly to the opponent's area. In the Panca Event game, the team that wins a rally, earns one point (Rally point system). When the team receiving the service wins a rally, the squad gets the point and is entitled to the next service and the players shift one position clockwise. This five-event game is a unique, attractive and fun game to see because it is easier and can be enjoyed, because the ball is not easy to die, the number of players is more than in the previous number.

Table. 2 Results of sepaktakraw expert test recap, with the following details

Expert Team	very appropriate	appropriate	enough appropriate	Score result	Score Maximal	%	criterion
Expert 1	13	6	1	72	80	90	Very Decent
Expert 2	12	7	1	71	80	88,75	Very Decent
Expert 3	11	8	1	70	80	87,5	Very Decent
Expert 4	9	9	2	65	80	81,25	proper
Expert 5	10	8	2	67	80	82,5	proper

Table. 3 Expert Validation Graph



	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5
Very Worthy	90%	88,75%	87,50%		
Worthy				81,25%	82,50%
Column1					

Indicators that become expert assessment of the game of sepak takraw with the number of five events include the size of the field, net height, ball size, number of players, the structure of the position of players on the field, the rules of substitution, service rules, point calculations, as well as the rules of the game guidelines five event.

Based on the results of this study using the development of Borg and Gall conducted with 10 steps of research stages can be known that the product of the development of sepak takraw games with a new number of five events began from the analysis of the needs conducted with discussions Graup Discussion Forum, through interviews and the dissemination of questionnaire questionnaires, the result of which is the need for the development of new games five sepak takraw events for which is used as one of the breakthrough varia the Training program for coaches and also for the provision of coaching novice players more effectively and easily done by beginners to do sepak takraw games.

From expert validation test results, small and large scale tests show the product is effective and worth using. The results show that sepak takraw game products from AHSIL development are already effectively used for the game. this product is the result of modifikaasi from previous sepak takraw numbers. The modification aims to create new numbers that have more entertainment art by making the game appeal to audiences. Sepaktaraw with the number of five events after expert validation is refined from modifications to aspects of service rules, smas rules, number of players, and game rules that are also modified according to needs.

The service at the five-event sepak takraw platform is modified with alternating rotations of each player. it is like in a volleyball game so the service is not monotonous. Modification of the service rules is effective in addition to scoring points in the game, the service can also attract spectators because it can be done by jumping. players can perform jumping services from outside the field boundaries. This is what makes the game add value to the art of attracting the audience. turn-based service also makes the player's service strength stable and strong. This is different if each group's service is done with 3 chances that will drain the player' energy. In addition, alternating service will make the player feel all for service and the opponent will also feel the variation of the opponent's serve. The development is in line with Hanif's (2015) opinion that the purpose of a service should be to focus on the game or defense of the opponent so that we can manage deadly attacks and difficulty receiving the ball by the opponent.

The number of players playing in each game is also modified to 5 people. This number of players will make the mastery of the ball in the game proportional and become longer the game. It's a long time to win a set of games that is one of the factors that make sepak takraw game interesting to watch. It is different if the game sepak takraw which is only briefly finished because the game quickly dies will make the audience less interested in seeing it.

Smash in this five event game is also modified by the rules of the presence of an attack line. This line is the limit line of the player who performs a smash or attack. Smashing the ball into the opponent's area is the most important and terkirkir work in attack. Failure to mensmash to the opposing side to carry out a counterattack (Hanif, 2015).

Attack or smesh is a hard and sharp ball punch towards the opponent's field. Smash in sepak takraw is an important technique and must be mastered by a player, because with this smesh the numbers can be easily obtained by the competing squad and can win a match easily. Smesh in sepak takraw games can be done by foot or by head.

This modification of the development of the Panca Event game is very necessary for players who are just learning sepak takraw for breeding, coaching in finding an achievement for the sepak takraw sport, in this Panca Event game there is a slight change in the rules of the game in terms of the number of players, the maximum touch field, a service that will make it easier for players to improve basic sepak takraw techniques. It is hoped that novice players will get satisfaction, joy in learning the five-event game with pleasure, ease and joy, because with the number of players 5 people on the same size field, it will make it easier for players to play, more attractive with a rotational service with many variations for each player the opportunity to take turns serving, like a volleyball game, with a three-player block in front is more fun and the rallies will be longer in the game. From the response of the sepak takraw experts with the development of the five-event game, it is very beneficial for the players to give new colors to the previous numbers, it is very feasible to compete in the addition of new numbers from 5 sepak takraw experts consisting of; 1 sepak takraw lecturer from academia, 1 national sepak takraw referee, and 3 national coaches, the sepak takraw experts gave excellent opinions and suggestions in the development of this five-event game in the hope that it could become a breakthrough for new numbers that are officially competed

in official matches, this is the hope of experts to recommend to PB.PSTI so that the number of numbers in sepak takraw can become one of the mainstay numbers for Indonesia in particular.

From the opinion of the respondents, which consisted of 60 players, the responses strongly agreed and deserved to be competed so that this five event could become one of Indonesia's mainstay numbers in the future, with the inspiration of modifying the development of the five events with Double and Quadrant game numbers.

The results of small-scale and large-scale test studies show that there is an effective game. from the small-scale buckwheat test with the MONOVA test, information was obtained that this five-event sepak takraw game from the service, block, smash aspects had superior proportions compared to the previous numbers. Servicing on this number can be used to seize points from the opponent. In addition, the aspect of the block carried out by three players will make it difficult for the opponent to take points from the smash. The results of the statistical test showed that there was a significant difference so that this five event sepak takraw could be said to be effective.

The results of this study are in line with the results of research conducted by Rahayu (2018) on the effect of the application of a modified sepak takraw game on students' motivation in learning which has shown an increase of 18.34%. The results of the research by Saputro, Yamin, & Sugihartono (2017) regarding the application of variations of rubber ball modifications to improve the skills of serving under sepak takraw, have been shown to increase the activities of teachers and students in the learning process with an average score of 45.4 with a percentage of completeness 28.5% and total students complete 10. In cycle 1 the average value obtained is 61, 4 with a percentage of completeness 60% and the number of students who complete 21, in cycle 2 the average value obtained is 78 with a percentage of completeness 85,7% and the number of students who complete 30 The results of this study show the similarity that the modification of the sepak takraw game with the new number of this five event can increase effectiveness and can attract spectators who make sepak takraw as entertainment.

4. Conclusion

Based on the results of research and discussion, the conclusions in this study can be formulated as follows.

1. Development research has been carried out and has produced a product in the form of developing a new number model for the Panca Event game in the Sepaktakraw branch for Central Java student players, which is made in the form of a game rule guide book

2. The second product is a guide book for basic and advanced technique training models for playing sepak takraw in the five event numbers for Central Java student players.

3. The third product is a guidebook for tactics and strategies for playing five events for formations in playing defensive and attacking positions for the training program to make it more meaningful than the previous models.

4. Additional products in the form of videos of the results of the five-event games and animated video games for beginners or junior players or students so that they have an interest in the five-event sepak takraw game.

5. The result of the development of the sepak takraw game in this study is the development of a new number of sepak takraw called panca event. This number is a modification of the old sepak takraw game from the aspect of the number of players, service rules, SMA rules resulting in product guidance for tactics and strategies for playing Panca Event h, the field and the rules of the game. The game of sepak takraw has been well developed according to the needs of the FGD results.

6. The results of small-scale trials, large-scale trials, and statistical calculations obtained information that the five-event sepak takraw game was effectively competed. The results of the trial obtained information that with the existence of sepak takraw this five-event looked more effective than the previous numbers in scoring points and game time. This Panca Sepaktakraw event deserves to be a Sepaktakraw match number because the test results have proven to be effective..

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