DESIGN OF NOTI BASKETBALL MODEL FOR HIGH SCHOOL STUDENTS

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Abstract:
This study aims to design of noti basketball model in physical education learning for high school students (Class X, XI, XII). To be able to achieve the aims, the methods applied in this study are interviews, observations, and literature review, with 5 (five) stages of research flow: (a) problem formulation, (b) data collection (interview, observation, literature search), (c) data evaluation, (d) analysis & interpretation, (e) conclusion. Based on the results of the study, a model of noti basketball in physical education learning for high school students has been designed. This design has a guide that explains the definition of the game, the knowledge structure of basketball games, the size of the court & hoop, basic techniques, safety rules, how to play, and the differences between basketball and noti basketball. Modifications applied in this design, namely: size of field, bounce board and hoop, size of ball, number, and composition of players, and game rules.

Keywords: design model, games, basketball, physical education, high school students

Resumen:
Este estudio tiene como objetivo diseñar un modelo de noti de baloncesto en el aprendizaje de la educación física para estudiantes de secundaria (clases X, XI, XII). Para poder alcanzar los objetivos, los métodos aplicados en este estudio son entrevistas, observaciones y revisión bibliográfica, con 5 (cinco) etapas de flujo de investigación: (a) formulación del problema, (b) recogida de datos (entrevista, observación, búsqueda bibliográfica), (c) evaluación de datos, (d) análisis e interpretación, (e) conclusión. A partir de los resultados del estudio, se ha diseñado un modelo de noti de baloncesto en el aprendizaje de la educación física para alumnos de secundaria. Este diseño cuenta con una guía que explica la definición del juego, la estructura de conocimientos de los juegos de baloncesto, el tamaño de la cancha y el aro, las técnicas básicas, las normas de seguridad, cómo jugar y las diferencias entre el baloncesto y el baloncesto noti.

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Physical education learning in schools is one of the efforts to realize the achievement of national education goals through the achievement of its learning objectives (Mustafa, 2022). Being an integral part of a comprehensive educational process, the implementation of physical education has the potential to improve the competence of motor skills, physical fitness, character, and sporting spirit (Saitya, 2022), all of which can support students in their daily lives (Mustafa & Sugiharto, 2020), as well as meet the needs of students’ growth and development towards movement (Setiawan, 2017).

The characteristics of physical education learning at each level of education will correspond to the stage of growth and development of students. At the senior high school level, the characteristics of physical education learning include:

1) students are directly involved in physical activities to gain real experience and improve critical reasoning, creativity, collaboration, communication skills, and higher-order thinking (HOT),

2) considering the growth and development characteristics of senior high school students, movement tasks, and environmental support with developmentally appropriate practice (DAP) principles,

3) forming physically literate individuals who apply it throughout life,

4) based on the nation’s noble values in forming the PPP (Pancasila Student Profile) (Mahendra & Jabar, 2021).

The learning objectives of physical education at the senior high school level will contain 3 (three) aspects, namely: competence, content (material learned), and variations in the use of critical, creative, and higher-level thinking skills.

One of the physical education materials within the scope of games and sports is the game of basketball. In the description of the proportion of physical education about materials and regulations, (Widodo, 2019) explains that physical education material is not coercive or forced, and is not the teacher's choice but is tailored to the abilities and interests of students. The game rules contained in the learning material are not standardized, and can be made according to the objectives and conditions in the field. Based on the basic competencies of physical education at the senior high school level for big ball games, the goal that can be achieved in both knowledge and skills through basketball games is good motion coordination, which is obtained from student analysis of motion skills.

Findings from interviews with physical education teachers in high schools in Gorontalo City, about learning big ball games, especially basketball. It is known that:
not all students have an interest in basketball games, although they do not refuse to participate in physical education learning. 
- it is difficult to design simple games that make it easy for students to analyze basketball game movement skills, and train motion coordination properly, 
- the learning method that is easy for teachers to use in every meeting is demonstration, 
- the facilities and infrastructure used are designed specifically for achievement sports.

Pomatahu et al. (2023) suggested that in addition to teaching methods, limited learning media (such as facilities and infrastructure) is also a common problem that is often encountered in physical education learning in Indonesia. Based on these conditions, this study aims to design of noti basketball model in physical education learning for high school students (Class X, XI, XII).

The questions in this study, namely:
- How to design a noti basketball model in physical education learning for senior high school students?

2. Material and Methods

This study is a prelude to research and development. Applying the methods of interview, observation, and literature review. The design of the noti basketball model is carried out through 5 (five) stages called the research flow, namely: (a) problem formulation, (b) data collection (interview, observation, literature search), (c) data evaluation, (d) analysis & interpretation, (e) conclusion.

In the first stage, problem formulation begins by looking at empirical problems that will be studied scientifically. In this study, the problem focuses on the material of big ball games, basketball. In the second stage, researchers first conducted semi-structured interviews with senior high school physical education teachers in Gorontalo City, as well as making observations. In the observation, researchers also measured students’ height to fulfill the need for data on the average height of high school students. This data will be used in a simple comparison to determine the height of the hoop and backboard.

Still in the second stage, the library search was carried out by utilizing the Google Scholar application and Publish or Perish. The search time range in both applications is 2016-2022. In Publish or Perish, the maximum search is limited to 100 articles (Figure 1). Through both applications, articles were searched by entering keywords. The keywords used include: physical education learning, high school physical education learning, physical education learning, learning media, physical education learning media, adolescent characteristics, adolescent growth, adolescent development, movement skills, game models, basketball modifications, and basketball development research.
2.1 Simple Comparison Formula

\[
\frac{A}{B} = \frac{A_1}{B_1}
\]

In the third stage, the author evaluated the data that had been obtained in the previous stage. All findings from interviews, observations, and article searches were collected in Microsoft Excel (sheet) to make it easier for researchers to analyze and interpret the findings at a later stage, and apply them in the design of the noti basketball model. In the final stage, the conclusion, the initial model of the noti basketball was successfully designed, as described in the results section of this paper.

**Figure 1:** Use of the Publish or Perish Application

![Source: Author's Document (2023)](image)

3. Results and Discussion

The result of this research is the design of a noti basketball model for physical education learning for high school students, as follows:

3.1 Definition of Noti Basketball

Noti basketball model is a game played by two teams, each team consisting of six players, and the players can consist of a combination of men and women. The goal of the game is to score as many points as possible by trying to put the ball into the opposing team’s basket and prevent the opposing team from scoring. The word noti comes from a word in the Gorontalo tribal language in Indonesia, nou and uti meaning girl and boy.
3.2 Knowledge Structure of Basketball Games
The basketball game knowledge structure contains an explanation of the dimensions of the theoretical study of 7 (seven) sub-disciplines of sports science, namely: sports medicine, sports biomechanics, sports psychology, sports pedagogy, sports sociology, sports philosophy, and sports history. This structure is then described based on the characteristics of basketball games in high school (Figure 2).

**Figure 2: Knowledge Structure of Basketball Games**

![Knowledge Structure Diagram]

Source: Authors (2023).

3.3 Noti Basket Court and Hoop Size
The noti basketball court can use volleyball, badminton, sepaktakraw courts. But to make it easier for us, the noti basketball court is given a modified standard size as in Figure 3. The same applies to the backboard and hoop (Figure 4 Determination of the size of the court, bounce board, and hoop uses a simple comparison formula between the average height of professional basketball players (NBA, 2023), and the average height of high school students. All of these sizes are subject to change, depending on the conditions in each school.
3.4 Basic Techniques of Noti Basket
Basic techniques of noti basket are basic techniques that students will use to play, practice movement skills, and coordination. There are 5 (five) basic techniques of noti basketball, namely: (a) passing, (b) dribbling, (c) lay-up, (d) shooting, (e) pivot.

3.5 Safety Rules of Noti Basket
Safety rules of noti basket contain things that must be considered by teachers and students during the learning process, including: (a) student health, (b) clothing, (c) skill level, (d) field conditions, (e) additional movements, (f) long nails, (g) users of glasses and contact lenses, (h) long hair, (i) rough tactics.

3.6 How to Play Noti Basket Model
This section contains explanations of: (1) referees and their duties and obligations, and (2) the rules of noti basketball. The rules of the noti basketball game still adopt the rules of the basketball game, but some things are modified to eliminate the rigidity in the game.
3.7 Differences between Basketball Games and Noti Basket Model

The noti basketball model is designed by applying modifications to several things, namely: the size of the court, bounce board and hoop, and game rules. Details of the differences between basketball and noti basketball can be seen in Table 1.

<table>
<thead>
<tr>
<th>Permainan Bola Basket</th>
<th>Model Basket Noti</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. For professional and amateur players;</td>
<td>a. For high school students;</td>
</tr>
<tr>
<td>b. Played by skilled and trained players;</td>
<td>b. Played by both skilled and unskilled students;</td>
</tr>
<tr>
<td>c. Standard games rules and changes can only be authorized by FIBA and PERBASI in Indonesia;</td>
<td>c. Game rules are simple and can change as needed in the learning process;</td>
</tr>
<tr>
<td>d. Played in the season of matches and training sessions;</td>
<td>d. Played during the learning process;</td>
</tr>
<tr>
<td>e. Gender games (Male and female players are separate).</td>
<td>e. Without gender bias.</td>
</tr>
</tbody>
</table>

Table 1: Differences between Basketball Games and Noti Basket Model

Designing a modified game model is one of the solutions to problems in physical education learning in Indonesia. (Pomatahu et al., 2023). This designed model can be tested through research and development. The noti basketball model is a follow-up to the taki basketball model, which is used as a learning medium for PJOK for upper-grade elementary schools (Pauweni, 2012; Pauweni & Rahayu, 2019). The design foundation of the noti basketball model follows the core competencies of knowledge and skills of senior high school grades X, XI, XII, which are stipulated in the physical education curriculum. The basketball game model has many forms of design in Indonesia, both those used for physical education learning activities (Prasetyo & Sukarmin, 2017; Walter & Lismadiana, 2015; Dermawan, 2023), as well as extracurricular activities (Yuliandra & Fahrizqi, 2019; Sulaiman & Fajrin, 2018; Darmawan et al., 2016; Prasetya et al., 2018).

Design game model is a game modification in physical education learning. Some explanations of game modification in several classic citations that serve as a foundation for Indonesian authors and researchers, among others:

1) (Lutan, 2003) outlines the importance of the purpose of modification to meet students' movement needs, increase participation, and provide students with the opportunity to move correctly;
2) (Ateng, 1992) mentions aspects of the game that can be modified, such as increasing or decreasing the number of players, the size of the field and equipment, the duration of the game, changing the rules of the game;
3) (Bahagia & Suherman, 2000) emphasizes the components of PJOK learning that can be modified, including: goals, materials, environment, and evaluation;
4) (Bahagia, 2010) The reason for the importance of modification is that children are different from adults in terms of growth and development, learning is less effective and monotonous, the design of learning facilities follows achievement sports facilities;
5) (Ausie, 1996) modify the game for children in Australia with scientific reasons, such as physiological aspects (growth, development, and maturity of children), kinesiological aspects (the force generated by the muscles as a means of movement of children cannot overcome the potential energy of standard equipment), psychological aspects (excitement and fun in competition).

Modification of basketball games can help teachers develop physical education learning so that several goals can be achieved. The findings of the researchers revealed several learning objectives that were successfully achieved, namely: improving gross motor development (Setiawan, 2022; Reswari, 2021), movement variation and combination skills (Ibrohim, 2022), learning outcomes (Agustiawan & Al Ghani, 2022), learning interest (Ramadhana & Tuasikal, 2018), learning motivation (Wijaya et al., 2023; Toriq & Katriko, 2017), numeracy skill (Reswari, 2021), students’ physical fitness (Puspitaningsari & Ahmad, 2015; Zoki, 2017).

4. Recommendations

This design must be tested through research and development, to produce a final model that can be used in the physical education learning process for high school students. In the research and development, this design will be validated by several experts, and tested for design effectiveness through small-group and large-group trials.

5. Conclusion

Based on the results of this study, a noti basketball model has been designed for high school students, which is adjusted to the empirical problem. This design explains about the definition of the game, the structure of basketball game knowledge, the size of the court & hoop, basic techniques, safety rules, how to play, and the differences between basketball and noti basket. The noti basketball model applies modifications to; (1) the size of the court, backboard, and hoop, (2) the size of the ball, (3) the number of players, (4) the composition of players (boys and girls), and (5) the rules of play.

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Conflict of Interest Statement
The authors declare no conflicts of interest.

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References


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