

# The Development of Teaching Models Guide Books Based on the Educator's Needs in Physical Education

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## ABSTRACT

This research aims to develop a guidebook on the application of teaching models in physical education based on the data obtained from the needs analysis of educators. This is a research and development (R&D) model study consisting of three stages, namely defining, designing, and developing. Validators in this research are the experts of material and media and an individual test was conducted by involving thirty physical education teachers. The data used in this research were qualitative and quantitative. Qualitative data was obtained from critiques and suggestions that have been given by the validators and from test correspondents. Quantitative data were obtained from validators and from small-scale trials to teachers using an assessment instrument with a Likert scale. Validation results from both types of validators and the results of individual trials indicate that the developed learning model application guidebook is in the very valid categories. This indicates that this book is worthy of use by teachers in teaching physical education.

**Keywords:** *Physical education, learning models, educational needs analysis, learning media, teaching handbook*

## 1. INTRODUCTION

Physical education has become widely studied by researchers to improve its teaching quality at schools and colleges [1], [2]. In general, these studies were more directed to how the portrait of physical education in schools and the problems faced by teachers or students during the teaching process. In addition, these studies also show that physical education has become one of the important topics to be studied in the world of education.

Several studies conducted by [3]–[5] indicated that there are several types of problems faced by educators and learners in learning physical education. The using of conventional learning model and the lack of supporting facilities are the main problem. Specifically in human resources, the low quality of educators caused minimum achievement of learning. Besides that the lack of teaching materials caused the difficulty learning guiding of teachers. The results of this study also showed that the important aspects needed to be considered in teaching physical education are the teachers' and their teaching skills.

A skill of teachers must have how to implement and develop learning models in physical education. Several studies focusing on learning models in physical education

have been undertaken earlier by [6]–[8]. Based on some researches, it can be concluded that teachers should be able to understand some concepts of learning models. Every material in physical education demands the application of different learning models. The use of the same learning model on all materials in teaching physical education will certainly promote some negative impacts on students' understanding of the material.

Results of studies which were conducted by [7], [9], [10] showed that teachers had difficulties in developing their learning models in physical education subject. This is in relation to the results of observations conducted with physical education teachers at junior high school and high school levels. The data from those observations showed that teachers tend to lack the ability to implement and develop learning models in accordance with the material. Teachers tend to use the same learning model in all physical education materials that they teach. The results of interviews show that their lack of understanding of teaching materials that can be used as references in developing learning models. Furthermore, many teachers are unable to develop various learning models in physical education.

This study aims to develop teacher manuals oriented to the implementation and development of learning

models in teaching physical education in relation to the types of materials that the students need. Learning models to be developed in that guidebook are the ones that have previously been studied and proven to be effectively used by teachers in physical education teaching. Through this guidebook, teachers are expected to understand and be able to implement various models of teaching. So, it will have a positive impact on students' learning motivation and academic achievement.

**2. RESEARCH METHOD**

This is a research and development using the model proposed by Thiagarajan et al. [11]. The procedure of this research consists of three stages, namely defining, designing, and developing. 1) The defining stage, in this case, is to do observations to investigate the materials which are required or needed by learners and educators in physical education subject. 2) The designing stage was performed by creating a prototype or teaching material framework. It would be constructed and adjusted to the data taken from the needs analysis that had been conducted previously. 3) the development stage was conducted by sending the material that had been developed to the validators (consisting of material experts and the media experts) and an individual test was conducted to 30 teachers and lecturer of physical education discipline. Validation and test aim to control the content of teaching materials in order to keep them in accordance with the teachers' needs. Furthermore, the revision was performed to improve the quality of the textbook in various aspects. Revisions are based on suggestions and inputs given by the validators from material experts, as mentioned in the finding section, as well as advice delivered during the discussion with the material experts.

The types of data used in this study are qualitative and quantitative. Qualitative data is data obtained from correspondents and validators who provide criticism and suggestions. Quantitative data were obtained from the validation process by validators and from a small-scale trial conducted with teachers and lecturers. The questionnaire used a Likert scale with four answer options in each component. [12]. Those scales (number 1-4) were then interpreted into the qualitative description so that the validity level of textbooks which were developed could be identified. For more details, please look at the following Table 1.

The instruments developed in this research are the validation sheet for media experts, expert validator, and field trial to 30 teachers and lecturers of physical education. Here is the instrument construct that has been developed.

**Table 1.** The Score Criteria of Questionnaire with Likert Scale.

Score	Criteria
4	Good / interesting / decent / easy / appropriate / exact.
3	Quite good / interesting enough / decent enough / quite easy / quite appropriate / quite right.
2	Less good / less attractive / less feasible / less easy / less appropriate / less precise.
1	Not good / not interesting / not feasible / not easy / not appropriate / not precise

**Table 2.** Questionnaire Construct of Media and Learning Design Validation by Experts.

Validated Components	Indicators
The Technique of Presentation	Systematics Coherence
The Feasibility of Presentation	Administration Pages Introduction Content
The Feasibility of the Graphics	Book Size Cover Design Design of Book Content

The table above shows the three components considered by the expert validator of learning media and design, which are the technique of the presentation, the feasibility of the presentation and the feasibility of graphics. While on the sheet of validation by material experts and field trials, there are three components that are considered. They are the material feasibility, the presentation feasibility and the use of language.

The construct of expert material validation and field trial has three validated components. First, (a) the material is oriented to the introduction of learning models in physical education, (b) the content is adequate in guiding teachers to implement the learning models which described, (c) the material accuracy is maintained (no wrong concept), (d) each learning model is illustrated with syntax or clear learning steps, and (e) the examples provided focus not only on certain types of sports but also on other different games. Second, (a) the presentation of material is coherent, systematic, straightforward, and easy to understand, (b) the contents of the book material do not contradict with ethnicity, religion, race, and social relations do not contain pornography, and accommodate diversity and gender insight, (c) the connection among chapters, subchapters and concepts is good, and (d) the font type and size are easy to read. Third, the language is easy to understand, and the use of terms, symbols, and or Icons is accurate.

The data were analyzed with descriptive statistics by comparing respondents' answers in 1 item with the ideal number of items.

The table 3 above shows that there are four validity values from the developed guidebook, ranging from 'invalid' to 'very valid' categories

**Table 3.** The Value Scale of Media Learning Validity.

Value Scale (%)	Validity Level
85.01 – 100.00	Very valid needs a small revision to applicable
70.01 –85.00	Valid but needs a small revision
50.01 – 70.00	Less valid needs major revisions
01.00 – 50.00	Invalid not applicable

### 3. RESULTS OF RESEARCH

Before developing a guidebook on the application of learning models in physical education, the first procedure which was conducted was the defining stage. This research was started by doing observations to students and to educators furthermore. Observations in this regard were conducted to find out the materials which were required, to what extent educator could develop learning models, and what learning models were needed by educators. In addition, researchers also examined the effectiveness of each learning model that would be developed through the guidebook so that the effectiveness of learning models discussed in the manual had been ensured. The next step was designing. At this stage, researchers designed prototypes or teaching material frameworks that would be created and adapted to the needs that had been previously identified.

The last stage was the validation of teaching materials by expert validator. The trial involved 30 teachers and lecturers of physical education. Validation was done in a particular sequence, which is in this case, after revising the validation result from the first validators which were the learning media and design experts. We then sent it to the second validator that was the expert validator. After the learning media had been revised in accordance with the input and suggestion from the validator, we conducted field trials to 30 physical education teachers. The following is validation results of the guidebook by the validator and the results of the field trial.

Based on the validation result from two expert validators, it can be a synthesis that the guidebook which was developed has reached the validity level of 86.96 percent with a very valid category. Several notes addressed by the expert validators related to the development of this book before the field trials to 30 physical education teachers was conducted were: 1) some theories or materials were not equipped with bibliography, 2) some learning models were not equipped with their syntaxes or learning steps, 3) the type of the sports should not focus on one or two sports only, yet it was necessary to add more examples of sport, 4) the indoor learning model should be separated from the outdoor learning model, 5) the material related to the evaluation of the learning model should be placed in the

last part of the book, 6) some terms like "pay it forward" needed to be described in more detail and the book should also explain why the learning model was called "pay it forward."

**Table 4.** The Summary of Guidebook Validation Results by the Experts of Learning Media and Designs.

Validated Components	Percentage (%)	Information
Presentation Technique	87,5	Very Valid
The Feasibility of Presentation	79,2	Valid
The Feasibility of Graphics	87,5	Very Valid
Average Score	84,7	Valid

**Table 5.** The Summary of the Handbook Validation Results by the Material Experts

Validated Components	Percentage (%)	Information
Material Feasibility	83	Valid
Presentation Feasibility	91,7	Very Valid
Language Feasibility	87,5	Very Valid
Average Score	87,4	Very Valid

Feedbacks from the validator were then used as a basis for revising this manual prior to field trials. The following table summarizes the results of field trials.

**Table 6.** Summary of Field Trial Validation Results.

Validated Components	Percentage (%)	Information
Material Feasibility	89,8	Very Valid
Presentation Feasibility	91,7	Very Valid
Language Feasibility	93,3	Very Valid
Average Score	91,6	Very Valid

Based on the results of the field trial, which was conducted to 30 teachers of physical education, it can be concluded that the guidebook has met the level of validity. It based on the percentage of 91.11 which is in the category of very valid.

Data obtained from interviews with some teachers indicate that this book could greatly assist the teaching of physical education. Various learning models that could be applied in learning. The learning models were complemented by systematic learning steps that made them easy to be applied by teachers. In developing instructional media, one aspect of being considered is the concept of needs analysis on the learning media which is to be developed (Benesch, 1996; Boshier, 2002; Brown, 1995; Kaewpet, 2009). The book was structured based on the need analysis to the educators so that the

implementation of the learning models presented in the book was tailored to the available teacher's resources and school facilities so that the teacher will not meet any difficulty when implementing them. The use of guide book will trigger other learning variables such as academic achievement, academic motivation, and learner's self-efficacy. The the teacher's style in explaining the concept might be the primary variable in teaching. It can impact on other variables in learning [13]–[15].

#### 4. CONCLUSION

The guidebook on the application of learning models in physical education was developed by examining each effective learning model to be applied in teaching that subject. In addition, the book was also developed on the basis of data obtained from need analysis to the educator, which means, some teachers were interviewed about what kind of guidebooks they need in physical education teaching. The results showed that the percentage of validity value given by each validator and the validity of small-scale test scores by 30 physical education teachers was above 85.01. This indicates that the guidebook for the application of learning models in physical education teaching, which was developed, is in a very valid category so that the book can already be used by the teacher even though some revisions are still needed.

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