

# Developing Basic Techniques of Artistic Gymnastics Book: Gymnastics on Motion

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**Abstract:** This study aims to produce a learning media product in the form of basic technique floor gymnastics books that can be used as basic technical learning media for beginners in the floor gymnastics sports. The research method used is Research and Development. The steps of this research are to adapt from Sugiyono's research steps which consist of 10 steps, but the method has been adapted according to the objectives of this development research. Small-scale trials were carried out on 1 coach, and 7 athletes, while large-scale trials were carried out on 2 coach and 13 athletes of Yogyakarta City *PERSANI*. The instrument used to collect data is an evaluation sheet, and a rating scale questionnaire. Evaluation data are in the form of quantitative and qualitative descriptive. Quantitative data obtained in the form of numbers from the questionnaire results. The assessment questionnaire data in the form of quantitative data were analyzed using a likert scale so that it could indicate the level of product feasibility. The results of data analysis in this research and development, it can be concluded that the results of the assessment of the product development of the basic gymnastic floor book "Gymnastics On Motion" can be used as a learning media in the floor gymnastics with a percentage of 89.24% of respondents said the learning media included in the category Very 88.5% of respondents said that the learning media was categorized as Very Eligible / Effective. Overall aspects of material and product design are obtained on average with the category Very feasible

## 1 INTRODUCTION

Sport plays an essential role in human life. By doing it, people can keep themselves healthy both inside and outside. Gymnastics is a kind of sports that has a very complex motion. The whole muscles hold important roles in the floor gymnastic motion. The word 'gymnastics' derives from Indonesian 'gymnastiek', English 'gymnastic', and Greek 'gymnos'. *Gymnos* can be translated as naked (Muhajir, 2006). In the old times, people who did gymnastic were indeed half naked in order to make the motion less distracted. That way the motion would be perfect. Gymnastics is also considered as a sport with physical training movements that work systematically and arranged holistically to form and develop the personality in harmony. Sport can elevate people's dignity through multiple achievements from the championships. Nowadays, gymnastics belongs to one of the favorable sports by Indonesian citizens. *Federation Internationale de Gymnastique* (FIG, 2017) reveals that gymnastics has various branches of disciplines. Those are (1)

General Gymnastics, (2) Artistic Gymnastics, (3) Rhythmic, (4) Trampoline, (5) Aerobic, (6) Acrobatic.

The center of the whole branches of gymnastics in international level is *Federation Internationale de Gymnastique* (FIG), while in Indonesia they are under the umbrella of *Persatuan Senam Indonesia* (*PERSANI*). Artistic gymnastic is a branch of sport that relies heavily on motion. From time to time, the difficulty level of the motions keeps increasing. Those motions are ruled in a book entitled "Code of Point" which is constantly revised once in 4 years. There are abundant of new rules and motions arising in each of its revision. Due to the increasing difficulty level in gymnastic motions, thus, the coach is expected to try their best in assisting the athlete to learn the new motions. A perfect motion in floor gymnastic has always begun from the basic motions as the foundation that later will be associated with further motions. Dealing with this issue, the knowledge in learning the basic motions seems to keep escalating as fast as the knowledge in floor gymnastic motion. However, it is very unfortunate

that in Indonesia, there remain so many coaches who stick to the old books as their training sources. In other words, they get trapped in the old system as well. This issue is as worrisome as Indonesia will fall behind other countries which have moved to the newest reference.

Implies that the basic motion technique in floor gymnastic should be introduced and trained as early as possible as the athletes begin their practices (Maryono. A, 2009). It is the task of the coach to do so and therefore, the coach is the one who has the creativity in transferring the knowledge to the athletes. The coach should be knowledgeable of the best media that can be used in his or her teaching. Media can be a very beneficial tool to ease the process of delivering the material and basic motion technique in gymnastics as well. A learning media is also fruitful in making the athletes easily learn about the motions taught by the coach in such a fun and interesting way.

During practicing, the coach usually gives the instructions merely through descriptions and practices that sometimes make the athletes fall into boredom. Book as a learning media is a tool that can ease both the coach and the athlete in learning new motions in floor gymnastic. By having the book during the practice, the coach and the athlete are able to see the detail in every motion, biomotoric and other related thing, comprehensively. Textbook is a book dealing with a certain field of study or knowledge that is compiled for the purpose of facilitating both the teacher and the students in accomplishing the purpose of the study (Susilana R, 2007). The lack number of references in training will affect the understanding and ability of a coach to train the athletes well. This issue will further lead to the low quality of the gymnastics' athletes.

Nowadays, learning media in the form of books as references in training artistic gymnastic in Yogyakarta remains scarce. Mostly, the coach or teacher uses the old references. It is unfortunate as the knowledge in gymnastics' field never stops developing and it has a quite drastic change from time to time. One of the issues faced by the coach in having up to date references is dealing with language barrier. This issue has caused many coaches own very limited sources and references to the field. There are actually abundant books explaining various ways to train the motions in gymnastics. However, those books are mostly available in other languages and not in Bahasa. Undoubtedly, it has created an obstruction for the coaches and athletes in learning the developed knowledge in floor gymnastic.

According to the aforementioned issue, the researcher aims to assist by enriching the sources of knowledge and information dealing with training model of basic motion in floor gymnastic in the form of a guided book. This book will later be completed with some examples of basic motion in floor gymnastic, the way to do it, as well as how to assist and follow the motions. This guide book is written in a language that can easily be understood by the people. It also comes up with interesting and easy layout to comprehend. For that purpose, a research and development is needed to produce the intended product that can solve the existed issue. Therefore, the researcher will conduct a research and development entitled 'Book on Basic Technique of Floor Gymnastic Motion "Gymnastics on Motion"'.

## 2 RESEARCH METHODS

### 2.1 Research Design

This present research was conducted using Research and Development method. The 10 steps taken in the research were adapted from Sugiyono and were set to answer the issue in the research. Accordingly, the instruments involved in the research were questionnaire and evaluation sheet.

### 2.2 Research Time and Place

This present research was conducted on July 12 until 14, 2018 at Gymnastics Hall FIK UNY.

### 2.3 Research Subject

#### 2.3.1 Experts Subject

(a) *Theoretical Expert*: The theoretical expert was represented by Ratna Budiarti, As the lecturer in basic floor gymnastic motion subject. The theoretical expert played role in determining whether the material included in the book entitled "Gymnastic on Motion" was appropriate or not for the learning material.

(b) *Media Expert*: A media expert is a lecturer or expert in learning media. In this occasion, it was represented by Prof. Dr. Siswantoyo as the lecturer in coaching technology subject who is an expert in the field of coaching media. The media expert acted as the one who gave advice and comment on the ethic and the aesthetic of the media.

### 2.3.1 Small and Large Groups Subject

The subjects in this current research were athletes and the coaches under *PERSANI* club in Yogyakarta. The first stage in the research encompassed 8 subjects in total that was tested individually. Furthermore, the next stage involved a bigger group with 15 people in total.

The technique used in determining the subject was simple random sampling. (Sugiyono, 2010) dealing with the technique asserts that it is a sampling technique that gives the same chance to each population member to be chosen as the sample or subject.

### 2.3.2 Instrumentation and Data Collection Technique

Data collection technique is conducted for the purpose of collecting data or information in the research. In order to collect the data, a tool or instrument is necessarily needed. According to (Sugiyono, 2011) instrument can be defined as a tool used to measure the observed natural or social phenomenon. In this current research, the instruments used to gather the data were questionnaires, both open-ended and closed questionnaires. The open-ended questionnaire was used to gain further opinions or comments from the samples. Meanwhile, the closed questionnaire consisted of several statements to be chosen by the expert and group subjects as well. Those questionnaires were aimed at collecting some data dealing with the media expediency level in the form of number as the foundation to do product revision.

### 2.3.3 Data Analysis Technique

The collected data were furthermore analyzed both in qualitative and quantitative. The input gained from the theoretical and media experts was analyzed qualitatively in order to maximize the product in the research.

To do a validation towards the data gained from the observation on athletes and coaches to "Gymnastic on Motion" book, a 5-scaling level of assessment was used. Those are "SS" which had 5 score, "S" which valued 4 score, "KS" with 3 score, "TS" that had 2 score, and lastly "STS" which owned 1 score. This data analysis technique is also known as Linkert scale. The formula implemented in this development research will be described as follow.

The percentage gathered from the analysis was classified to recognize the category. This scoring

classification system referred to the standard of assessment criterion. Interpreting the raw score into a certain value using the standard of assessment criterion should be initiated beforehand with determining the criteria of the value and its limits as shown in the table below.

Table 1: Percentage classification.

Percentage	Statement
80-100%	Very Appropriate / Effective
70-79%	Appropriate/ Effective
60-69%	Fair/ Effective
45-59%	Less Appropriate/ Effective
<44%	Not Appropriate/ Effective

## 3 RESULTS AND DISCUSSION

### 3.1 Data Validation of the Theoretical Expert

The theory consisted in the learning material developed in this current research was validated by the theoretical expert Ratna Budiarti, as the lecturer of gymnastics subject in Sports Coaching Department in Faculty of Sports Science of Universitas Negeri Yogyakarta. The validated data were collected through the questionnaire consisted the contents in the observed book. Before answering the questionnaire, the theoretical expert had learned in advance the observed book dealing with the basic technique of floor gymnastic entitled "Gymnastic on Motion". In the middle of validating process, the theoretical expert directly asked several things related to the learning media being developed.

#### 3.1.1 Assessment from the Theoretical Expert Stage I

The assessment from the theoretical expert in stage I was completed on July 1, 2018 in Faculty of Sports Science of Universitas Negeri Yogyakarta. According to the data gained at this stage, it was revealed that the quality of the product being developed was "Very Appropriate" with percentage score of 80%.

#### 3.1.2 Assessment from the Theoretical Expert Stage II

Further assessment from the theoretical expert was conducted on July 4, 2018 in the same place as the previous stage. Based on the data from the second

stage, the theoretical expert assessed the quality of the product as “Very Appropriate” with the increase of percentage of 84%.

### 3.2 Data Validation of the Media Expert

The media expert involved in the current research was Prof. Dr. Siswantoyo, He is lecturing in Sports Coaching Department in Faculty of Sports Science of Universitas Negeri Yogyakarta.

The expert was chosen as one of the subjects in this research due to his competencies in the related field dealing with learning media. The data from the media expert was gained through a stage merely. The expert answered the prepared questionnaire that covered three aspects of assessment. Those are physical aspect of the product, product design aspect, and usage aspect. During validating process, the expert asked directly about several things related to the product being developed.

The assessment was conducted on July 5, 2018 in Faculty of Sports Science of Universitas Negeri Yogyakarta. The data revealed that the product in this research was signed “Very Appropriate” with percentage score of 94.66%.

### 3.3 Data of the Small Group Subject

A test was conducted towards the small group subject on July 12, 2018 at 04.00 P.M. during gymnastics’ practice at *Selabora Senam FIK UNY*. The total respondents in this test were 8 persons.

Data collection was done by showing as well as distributing the book dealing with basic technique of floor gymnastic entitled “Gymnastics on Motion” to all respondents. Having been explained about the material inside the book, the respondents were welcomed to give several attempts on doing the motions according to the steps shown in the book. After that, the examiner distributed the questionnaire to all of the respondents. The result revealed that the small group subject shown a “Very Appropriate” criteria with percentage score of 88.5%.

### 3.4 Data of the Big Group Subject

A test on the big group subject was held on July 14, 2018 at 04.00 P.M. in the practice hour of gymnastics at *Selabora Senam FIK UNY*. The respondents participated in the test were 15 people in total. Data collection was conducted by showing

and distributing the book dealing with basic technique of floor gymnastic entitled “Gymnastics on Motion” to the whole respondents. The materials consisted in the book were explained to the respondents. Then, they attempted to do the motions by following the steps written in the book. Furthermore, the questionnaire was distributed to the 15 respondents. The result came up that the big group subject achieved a “Very Appropriate” criteria with total score of 84.24%.

## 4 CONCLUSIONS

The result revealed through this current research and development showed that the product in the form of a book dealing with basic technique of floor gymnastic entitled “Gymnastic on Motion” can be used as a learning media in floor gymnastic with 88.5% respondents in small group subject and 89.24% respondents in big group subject admitted the product as “Very Appropriate”. Furthermore, in terms of material aspect and product design, 89.33% respondents valued it as “Very Appropriate” as well.

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