

# Development of Flip Book Maker Gymnastics Module

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**Abstract**—This research aims to find out how the model of module development in the lecture of gymnastics based flip book maker and the effectiveness when used as a means of studying students. This research is a research and development with respondents as many as 20 students for small scale test and 50 students for large scale test. This research resulted in the flip book maker gymnastics module with a variety of excellence and as many as 87% of respondents stated the teaching material of gymnastics-based course flip book maker effectively used as a learning resource for students.

**Keywords**— *module, gymnastics, flip book maker.*

## I. INTRODUCTION

Artistic gymnastics became one of the disciplines of gymnastics that were competed at the level of the Olympic Games championship [1] and men's artistic gymnastics had been held at the first modern Olympics at the Olympic Games in 1896, and has been an official Olympic agenda since 1924 [2]. To be a top athlete competing in Olympic games, it takes about 10,000 hours of training or a minimum of 10 years to get the proper quality of motion competed in Olympic games. [3, 4, 5, 6].

Unlike the other sports, which have a few competition numbers, artistic gymnastics have 6 numbers for men and 4 competition numbers for girls and each championship has different levels of mastery and [7]. The men's artistic discipline competition number has 8 competition numbers, which are all-round, team, floor, saddle horse, bracelets, jump table, parallel bars, and single bars [8]. Whereas women's artistic discipline has 6 competition numbers [1], namely team, all-around, vaulting table, uneven bar, balance beam, and floor.

History records at the time of the first modern Olympics in 1896 in Athens (Greece), medals were awarded only to the final results on pommel horses, rings, vaulting tables, parallel bars and high bars. At the 1900 Olympics in Paris (France), only all-round medals were awarded. The next Olympics Louis (United States) in 1904 the competition was arranged in such a way that there was a separation between the all-round and per-equipment other than floor exercise [8].

At the 1906 Olympics in Athens it was the 10th anniversary of the Olympics that only all-round numbers were given to the winners. Subsequent Olympics from the years of 1908 London (England) to the 1920 Olympics Antwerp (the Netherlands) were given only as many medals as possible [1]. At the Rio Olympics (2016) 98 gymnasts took part in the championship, as many as 49 gymnasts completed all-round numbers, in one team 1-3 gymnasts completed all-round numbers [9]. This can be interpreted that all-round numbers can be prestigious numbers from other numbers [10].

The existence of gymnastics courses became compulsory subjects attended by students of Physical Education and Recreation. Gymnastics courses in the curriculum are held for 2 semesters. The use of teaching materials becomes an important part to facilitate students in learning material taught in gymnastics courses.

In research [11] with the title comics used communication media shows that the media in the form of comics can develop mental or logical logic of basic mathematics, encouraging to make it easier to remember formulas or understand problems and relationships between components. The results of field observations, the existence of teaching materials for technology-based gymnastics courses is still minimal.

The available teaching materials are still in the form of conventional teaching materials. Based on the results of searches of 2018 PJKR students who took gymnastics courses, it was found that as many as 105 students stated that there were no technology-based gymnastics modules, the existing modules were in the form of conventional modules. This encourages researchers in the era of the industrial revolution 4.0 in the field of education to develop teaching materials based on flip book makers that can provide shared benefits.

## II. METHOD

This research is a research and development that produces teaching module gymnastics based flip book makers for students of PJKR FIK UNNES. The steps used in this study use seven main steps, namely: conducting preliminary research and gathering information, including field observations and literature review. Developing an initial product form consisting of prototype modules for gymnastic

subjects based on flip book makers, evaluating experts using one media expert and two learning experts, followed by a small group trial using 20 respondents, using questionnaires and consultation and discussing which are then discussed , followed by the first product revision, product revision based on the results of evaluations and small group trials. This revision is used to improve the initial product made by researchers, field trials are conducted using 50 respondents, final product revisions are made based on the results of field trials and the final results use teaching materials for gymnastics courses based on flip book makers.

### III. RESULTS AND DISCUSSION

The results of this study produced a prototype of gymnastic subjects based on flip book maker with the initial page display in accordance with Fig. 1.

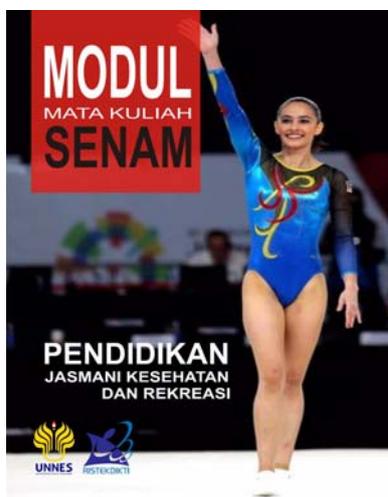


Fig. 1. The first page display of module gymnastics based on flip book maker.

Module specifications for gymnastics based on flip book maker can be seen in table I.

TABLE I. SPECIFICATION OF GYMNASTICS SUBJECT MODULE BASED ON FLIP BOOK MAKER

No.	The item	Information
1.	Final product	Can be in the form of Soft file and hard file.
2.	Content	Contains information in the form of text, pictures and videos
3.	Display	Interesting by sharing design variations.

Source: Research Team

### IV. CONCLUSION AND SUGGESTION

The conclusion that can be drawn from the results of this study is that the exercise book module based on flip book maker can be used as one of the learning media for students with various advantages.

The module for gymnastic courses based on flip book makker is equipped with video content so that it is effective for use as a student learning resource. The module of gymnastics courses based on flip book maker is also an effort to create learning based on industrial revolution 4.0.

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