



# Determination of Portfolio-Based Assignment on the Learning Outcomes of PJKR Student Gymnastics Course

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**Abstract.** The problem of this research is based on the less optimal use of free time outside of lectures for students in learning to achieve competence. The purpose of this study is to find out and analyze the determination of the student portfolio-based assignment model on the learning outcomes of gymnastics courses. This research is an educational research that is a survey study. The research method used is a quantitative approach with simple regression analysis to determine the extent of the effect and relationship between the portfolio-based assignment model and basic gymnastics learning outcomes. The research location at PJKR FIK Unnes with a sample of 232 PJKR students. The results of this study obtained the relationship between the portfolio assignment model and the learning outcomes of gymnastics courses with  $R= 0.926$  including a very high category and showing a positive direction. Its determination coefficient ( $R^2$ ) is 0.858. The learning outcomes of gymnastics course students can be seen from the students' crafts of making a gymnastics course portfolio of 85%. Suggestions for portfolio assignment should be through monitoring evaluation which requires students to always actively learn to make works in the form of writing, practice learning gymnastics movements and physical exercises as a support for movement.

**Keywords:** Portfolio, Learning Outcomes, Gymnastics

## 1 Introduction

Physical education students are students who are interested in learning to become an educator. To become an educator or teacher, it is necessary to have relevant skills and knowledge to be pursued. This competency that lecturers expect can be achieved by students. Based on the curriculum that applies in PJKR, semester 1 students get 20 credits of material for approximately 10 courses every week. So that there is a lot of time left outside of lectures. The difference in learning speed of each student is not the same, so it is necessary to enrich it, repeat, set and the right learning program to achieve the desired competencies.

Gymnastics is one of the main subjects in schools and universities, especially in the field of sports science. Because in it there are basic elements of movement that are very important for students to give, including floor gymnastics. Floor gymnastics has basic forms of exercise, namely front rolls, back rolls, walking series and front rolls, neck

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A. M. Sholikhah et al. (eds.), *Proceedings of the International Seminar of Sport and Exercise Science (ISSES 2024)*, Advances in Health Sciences Research 81,  
[https://doi.org/10.2991/978-94-6463-593-5\\_10](https://doi.org/10.2991/978-94-6463-593-5_10)

flexion, head flexion, hand flexion, shoulder balance (candle attitude), airplane balance. According to Sayuti Syahara (2005: 25) there are six dominant movement patterns in gymnastics learning, namely: (1) Static (static), (2). Landings, (3) Springs, (4) Locomotion, (5) Rotation, (6) Swings.

Knowledge of concepts and theories about basic motion should be improved into an understanding that is carried out through the application of basic motion. This is related to Agus Mahendra (2001: 15), who said that in order to achieve the goal of learning gymnastics that is educational and fun, it is necessary to develop the right learning approach. The successful implementation of learning methods in accordance with the objectives of gymnastics learning requires a learning evaluation that can summarize general and specific goals. A good evaluation of gymnastics learning will immediately find the problem of difficulties in learning gymnastics. In the learning outcome evaluation system, physical education assessment is a follow-up step after measurement. The information obtained from the measurement results is then described and interpreted. A good assessment system will be able to provide an overview of the quality of learning so that in turn it will be able to help lecturers plan learning strategies. For students themselves, a good assessment system will be able to increase intrinsic motivation to always improve their abilities, especially the basic mastery of floor gymnastics.

Based on the above background, the researcher wants to know how Determination of Portfolio-Based Assignment on Learning Outcomes of PJ Student Gymnastics Course

## 2 Method

The implementation of research at FIK UNNES and the population of this research uses all PJKR students in the first semester. The Total sampling technique was carried out by considering the homogeneity of the sample's behavior with the ability to master movement and initial knowledge which was almost the same on average. The number of samples in this study was 232 students. The research was carried out from the beginning of the first lecture in September to the beginning of November with an effective learning time of 10 times the meeting time. As stated in the background, this research is an educational research that is a survey study, which is a type of research to observe objects by collecting and processing data. This was done in order to determine the relationship and determination of the application of the assignment of the gymnastics course portfolio to the learning outcomes of PJKR semester 1 students. A structured portfolio-based assignment model of a fast, efficient assessment system that will be tested to obtain the value of the learning outcomes of gymnastics 1 courses. For this reason, a quantitative approach is carried out to describe and process the data for each variable. The population of this study used all PJKR and PGPIJD students in the first semester totaling 232 children. The Total sampling technique was carried out by considering the homogeneity of the sample's behavior with the ability to master movement and initial knowledge which was almost the same on average. To obtain and collect research data, a measuring tool in the form of a valid and reliable test is required. Measurements are adjusted to the shape and nature of the variables. The way data analysis is carried out is by using linear regression. Before conducting the linear regression test, the prerequisite tests for analysis were carried out in the form of: 1)

normality test of data distribution, 2) linearity test of regression linearity, 3) heteroscedasticity test, 4) multicollinearity test, and 5) autocorrelation test. Data analysis using a regression model with its free variable is the application of a gymnastics learning portfolio with the bound variable being the level of mastery of static equilibrium. The SPSS 21 data processor is used to process data and the relationship between its variables.

### 3 Results

Gymnastics courses in the PJKR and PGPJSD departments are compulsory courses for students in grade 1 with a total of 232 students divided into 6 groups. However, out of a total of 232 students, there were 2 students who never entered from the beginning and 3 students who were allowed due to other assignments. Each group varies between 40-45 students. In the gymnastics lecture, it is given to students in the form of concepts and practices for mastering movement skills. This research was carried out during 12 learning meetings regarding gymnastics materials through portfolio assignments where, floor gymnastics materials for students were in the form of airplane balance attitudes, khayang, candle attitudes, headstands, handstands, meroda, front rolls, rear rolls, neckkips and handsprings. The learning time provided is 2 x 45 minutes per meeting for 10 times is enough to give students the flexibility to learn movement under the guidance of lecturers. Lecturers also use a portfolio assignment strategy in the form of student assignments to make a report on learning track records in the assignment book which contains, among others, a table

Table 1. Instruments and Objectives of Portopolio Assignment for Gymnastics Courses

It	Assignment Items	Competence	Purpose	Value
1	Physical exercise in a week, push up sit up, back up for 1 minute and run 400m 5 laps	Basic physical exercises	Forming a basic physique that will be prepared to be skilled in gymnastics courses	Point 5 if all tasks are carried out a week at least more than 3 x Point 4 if it is partly carried out for a week 3 x Point 3 if carried out 2 x a week
2.	Summarizing the track record of training in the form of a narrative about the stages of training	Students are able to pour ideas and analysis of movement in the form of writing	Forming a writing culture among students.	Point 2 if carried out 1 x per week Point 1 if you miss it 1 week Point 0 if you do not carry out the portfolio assignment

3.	Practice floor gymnastics movements independently according to what has been learned	Students are skilled in floor gymnastics movements	mastering floor gymnastics skills proficiently
4.	Analysis of the movement skills of peer floor gymnastics in the form of written narratives	Students are able to analyze movement difficulties precisely	Mastering the stages of learning analysis in floor gymnastics courses
5.	Together with colleagues, evaluate the movement pattern that is not correct	Students are able to evaluate floor gymnastics movements	Able to evaluate incorrect stages of movement

#### Table description

1. Supporting physical exercises in the form of push ups, sit ups, back ups for 1 minute each and running around the field 5 times. Students in doing this physical exercise vary greatly 1 to 3 times a week. The results of his training are recorded in the book.
2. The track record of learning floor gymnastics skills material both in lectures and independent exercises outside of lectures is in the form of narratives
3. Summary of the material of each meeting to remember the knowledge of the methodology of learning floor exercises.
4. Learning outcomes at each stage of the development of floor gymnastics skills learning by peers.
5. Analysis of the identification of difficulties in learning floor gymnastics for each student
6. The report is written on a white-cover assignment book accompanied by photos of learning activities.
7. The assessment method of assignment of the portfolio model is in accordance with the instrument grid with a reliability level of 0.829 in the high category, while the validity of the evaluation measurement of the test items is in the valid range of 0.78

#### Assessment of learning outcomes

The collection of data on the learning outcomes of gymnastics 1 was carried out by conducting a mid-semester test, a final semester test and a daily assignment score for the gymnastics course 1. Mid-semester and end-of-semester assessments use

performance tests while daily assignment scores use a portfolio model. The test used used observation of the quality of motion results with a measurable reliability of 0.599 medium criteria. The validity of the test measures all items both validly logical and valid categories. This test is developed according to the performance test grid with the results per item as follows:

Table 2. Learning Outcome Test Grid

It	Test Items	Competence	Time	Assessment guidelines
1	Floor gymnastics performance test, front and back roll movements and their variations	Skilled in the scope of gymnastics courses on the basic movement of forward and backward direction	Mid-semester End of semester	Point 5 when the mastery of movement is very skilled and perfect Point 4 if the mastery of movement is proficient but there are still errors / imperfections Point 3 if the mastery of movement is moderate and there are still errors in movement coordination Point 2 mastery of movement is not proficient in movement coordination errors Point 1 unskilled and poorly coordinated movement mastery Point 0 if you do not master the movement at all
2.	The static balance floor gymnastics movement performance test consists of a candle attitude, an airplane, a handstand, a kopstand	Skilled in the scope of gymnastics courses on static balance	Mid-semester End of semester	
3.	Demonstration test of floor gymnastics and round off	Skilled in the scope of gymnastics courses on basic lateral motion	Mid-semester End of semester	
4.	Hand spring and neck kip movement performance test	Skilled in the scope of gymnastics courses on sprint-based movement coordination	Mid-semester End of semester	
5.	The Oral Test describes the knowledge of	Able to describe and evaluate movements	End of Semester	

	the scope of gymnastics courses	within the scope of gymnastics		
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### Data analysis

The study aims to answer the question of what is the effect of the application of the portfolio-based assignment model of gymnastics courses on the level of mastery of basic movements of static balance of PJKR students in semester 1 and the form of the relationship between the student portfolio-based assignment model and the level of mastery of basic movements of static balance. After meeting the normal assumptions and homogeneity of the variant, the data was tested using simple linear regression, following the summary results of statistical analysis

Table 4. Summary of Statistical Test Calculations

NO	Statistic al Test	variable	technique	P valu e	Level of signifi cance	Conclu sion
1.	Normality	Assess the task of the portfolio.	Kolmogorf -smirnov	0.200	0.05	Normal attribution data
2.	Normality	Assess learning outcomes	Kolmogorf -smirnov	0.064	0.05	Normal attribution data
3.	Homogeneity	Assess the task of the portfolio.	Levene test	0.209	0.05	Data Homogeneous
4.	Homogeneity	Assess learning outcomes	Levene test	0.352	0.05	Data Homogeneous
5.	Autocorrelation	R	Durbin Watson	1.920	$-2 < DW < 2$	No autocorrelation occurs
6.	Multicollinear Test		VIF Value	1.219	$< 10$	No multicollinearity occurs
7.	Multicollinear Test		Tolerance value	0,812	$> 0.10$	No multicollinearity occurs

8.	Test Hetrogenity	Assess the task of the portfolio.	Gljer	0.286	> 0.05	No hetrogenity occurs
9.	R value	0,926	High positive correlation of portfolio assignments with learning outcomes			
10.	RSquare	0,857	Showing the strength of the determination of the relationship between the two			
11.	F	P value= 0.000				

Based on the above data, the correlation value of  $R = 0.926$  concluded that the relationship between the portfolio assignment value and the positive learning outcome value and the category was very strong. Meanwhile, the determination is very strong as  $r$  Square 0.857. This means that the value of learning outcomes can be predicted with a portfolio value of 85%, the standard error estimation of 6.187 is part of the value of the variable portfolio smaller than the standard deviation of the portfolio value of 20.001 This means that the value of the portfolio assignment can be used as a predictor of a good learning outcome value.

In order to find out the correctness of the analysis flow, an F value of 6.381 is sought, if the significance is  $0.000 < 0.05$ , then the research flow is correct. This means that simultaneously the protopolio model variable has a significant influence on the learning outcome value variable.

#### 4 Discussion

The portfolio learning assignment model in gymnastics courses affects the value of gymnastics learning outcomes. This is in line with some research (Maghfiroh, Asim, & Sumarjono, 2013), (Toheri & Herlina, 2014),(Suardana, 2007) stated that the portfolio learning assignment model has a positive effect and can improve student learning outcomes. The reason that can be presented by this portfolio-based assignment requires students to actively learn to make works in the form of writing and practice learning gymnastics and physical exercises as a support for movement. In this assignment model, lecturers can control student activities in achieving their competency in gymnastics courses through assignment bills in the form of reports written in the assignment book

The constraints of this research are as follows:

1. The ability to write a portfolio of students' work in the form of reports that have not been maximized contains all learning track records, theories and analysis of weaknesses and self-advantages of students in learning dynamic balance. This is influenced by the writing habits of 1st semester students who are not honed

2. Students have various levels of emotional intelligence so that when given tasks, difficulties and challenges have a variety of responses. Students who have a positive response always make difficulties and challenges as a boost of enthusiasm and optimism in finding a solution to a problem, on the other hand, if students have a pessimistic negative response, consider themselves less able to overcome problems and are not motivated to learn.
3. Difficulties in learning can be revealed if students can analyze movement learning according to the understanding given by the lecturer. However, some students still cannot analyze their learning products, because they lack understanding in theory and feel embarrassed to ask questions.
4. At the time of the assessment of the performance of mastery of gymnastics on the ground floor, the appearance of students is often not in accordance with their learning progress due to a lack of emotional control so that at the time of performance it is not optimal.

The advantages of this portfolio-based assignment model have the following advantages:

1. Researchers can observe the seriousness, spirit of responsibility, and optimistic and pessimistic feelings of students.
2. This portfolio-based assignment model can accommodate students' learning records, feelings, and learning difficulties in static balance
3. Students' cognitive development is honed by trying to complete the writing in the assignment book which contains theory, practice, practice demonstrations and so on.
4. There is good cooperation between students to learn so that it is easier to solve learning problems in students.

## 5 Conclusion

Based on the data of the research results, it can be concluded that the following things are true:

The portfolio-based assignment model in gymnastics courses has an effect on the learning outcomes of PJKR students in semester 1 . This portfolio learning assignment model requires students to actively learn to make works in the form of writing and practice learning movement, balance and physical exercises as a support for movement. The coefficient strength of determination ( $R^2$ ) of 0.85 or around 85% of the learning outcome value of the gymnastics course can be explained positively through the value of portfolio-based assignments.

The Author Suggests

- a. The researcher only researched the psychomotor aspects in the portfolio assignment model, so further research is needed to see the influence or effect of the portfolio assignment model on other aspects, namely the cognitive and affective development of students
- b. In the portfolio-based assignment model, more intensive evaluation monitoring by lecturers is needed so that this model can run optimally.



- c. To students to have a record of learning progress and try to write learning activities to be able to identify weaknesses and strengths in developing their potential and do it seriously..

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