

# Development Of Physical Education And Health Learning Management System Through Si Pojok Application At Sd Negeri 2 Pakis Kembar

Muhammad Jerit Aldo Rizaldis<sup>1\*</sup>, Ahmad Nur Abadi<sup>1</sup>

<sup>1</sup>S2 Educational Managemen, Faculty of Education, State University of Malang, Malang, Indonesia

\*Corresponding author, email: muhammad.jerit.2401328@students.um.ac.id

## Keywords

Learning Management System  
Corner Apps  
Physical Education and Health

## Abstract

In the learning process requires a good system to be able to implement good, structured and systematic learning materials. The development of a Learning Management System is an effective step to achieve good learning quality, especially in physical education and health materials. The purpose of this study is to develop a learning management system through the sipojok application, with this development it is expected that the learning system can be more effective so that children's learning achievements are expected to increase. The method applied in this research and development is the development model from Borg and Gall, namely: 1) Determining the research problem 2) Collecting Information (a) Reviewing the bibliography (b) Needs Analysis (3) Initial product design and Validation (4) Small group trials (5) revision (6) Field trials (7) Final product of research and development. The results of this study are in the form of the sipojok application, based on this research and development it is expected that the product of this research and development in the form of a learning management system can be applied in the learning process at SD Negeri 2 Pakis Kembar.

## 1. Introduction

Education is an effort to realize the growth and development of children both in terms of spirituality, character, mind and body of the child. The goal of holistic education is to shape the character of children to have good morals, increase intelligence and make the body healthy. To produce good education must be done continuously or sustainably, efforts made continuously are carried out in order to instill values and norms that exist in the midst of society and so that these values and norms can be preserved to the next generation. The quality of education is the responsibility of parents, teachers and schools. The main influence on a child's character is in the education of parents, teachers and schools, therefore the instillation of character education must be done as early as possible. In the world of education, the quality of education is determined by teachers, this has a correlation that a teacher or school that has good quality will produce quality students. Improving the quality of education is a challenge for teachers and schools, therefore the quality of teachers and schools must always be maintained. Moreover, today global challenges are a challenge for teachers and schools. The challenge is the rapidly developing role of digital in society, this requires teachers and schools to have an active role in improving their competence, especially regarding technology.

The importance of a teacher in improving the quality of learning is considered very important, one way to improve the quality of learning is to have a good learning management system. A curriculum that is well-designed and well-managed and structured is considered easier to implement for students. so that student learning outcomes can be expected to reach the expected standards. The role of digital is considered very helpful in managing learning where today the role of digital has spread to remote areas of the country. For this reason, in improving the quality of learning, teachers and schools are expected to utilize advances in science and technology in learning. The learning management system is a step in renewal for teachers in improving the quality of learning.

The quality of learning is influenced by several factors, one of which is good managerial skills in the classroom. To improve student learning outcomes, a good, structured and systematic learning system is needed. Well-designed learning tools are expected to be able to be delivered to students

according to the stages of student learning. Managerial skills are mandatory for a teacher to create a systematic, effective and efficient learning environment.

The role of a teacher is very important in improving the academic achievement of students, therefore a teacher must prepare good teaching supplies. Teaching supplies must be packaged well through a learning management system in each subject. In the learning management system itself, there are aspects of planning, organizing, implementing and evaluating. Technological advances can be utilized in renewing the learning system, by utilizing technological advances it is hoped that the learning process can be more active, creative and enjoyable.

In 2018, the Program for International Assessment (PISA) determined that Indonesia was ranked 74 out of 79 countries. PISA is used to evaluate the education system followed by several countries including Indonesia. There are three aspects tested by PISA, namely literacy, numeracy and science. Of the three aspects, they have an important role in the education system, from literacy skills where children are required to have critical thinking logic then have high reasoning skills and then science skills that require obtaining new knowledge.

Based on these data and global challenges, it is considered necessary to improve the quality of education holistically in order to achieve quality education nationally. Rational improvement in the quality of education is the improvement of the quality of learning carried out from the level of educational units. Improving the quality of learning from the level of educational units is considered very realistic, rational, relevant, clear and sustainable by improving the quality of learning through good learning management. So that the objectives, content, and methods of learning can be implemented well to students.

The efforts to improve the quality of learning that have been carried out so far have not been carried out professionally, this is because the implementation in improving the quality of learners

## **2. Method Research and Development**

The development of a physical education and health learning management system at SD Negeri 2 Pakis Kembar uses a research and development model developed by Borg and Gall (1983:775) which consists of ten development steps, namely:

1. Conducting research and collecting information (literature review, class observation, preparation of reports on the main problem).
2. Conduct planning (Defining skills, formulating the determination of teaching sequences, and small-scale trials).
3. Developing the initial product form (preparing teaching materials, compiling handbooks, and evaluation equipment).
4. Conducting initial field tests (conducted in 2-3 schools using 6-12 subjects). Interview, observation and questionnaire data are collected and analyzed.
5. Revising the main product (in accordance with suggestions from the results of the initial field test)
6. Conducting the main field test (conducted in 5-15 schools with 30-100 subjects). Quantitative data on subject performance in the precourse and postcourse are collected. The results are assessed according to the course objectives and compared with control group data where possible.
7. Revising the operational product (product revision based on suggestions from the results of the main field test).
8. Conducting operational field tests (conducted in 10-30 schools, covering 40-200 subjects. Interview, observation and questionnaire data are collected and analyzed).
9. Conduct revisions to the final product (product revisions as suggested by the results of the field trial).
10. Disseminate and implement the product (Make reports on the product at professional meetings and in journals. Work with publishers who can distribute commercially. Assist distribution to control quality).

This research and development is expected to be used as a learning management system in schools in order to improve the quality of learning, especially in physical education and health subjects. On the other hand, this research and development is adjusted to the needs of the research and development being studied. This is reinforced by Sukmadinata (2013:174) in his book, that "Development planning continues to pay attention to costs, people who will help and participate in the implementation of development, tools and materials needed and the estimated time needed to carry out all research and development activities".

The research and development procedures for the physical education and health learning management system through the Sipojok application at SD Negeri 2 Pakis Kembar are:



1. Conduct initial research, data and information collection, literature review and field observation at SD Negeri 2 Pakis Kembar.
2. Designing the initial product
3. Evaluation by experts
4. Initial product trial (small group)
5. Revising the initial product according to the small group trial
6. Field trial (large group)
7. Revising the product according to the field trial (large group)
8. Conducting operational field trials
9. Revision of the final product
10. Disseminating and implementing the product



Needs analysis is carried out to find out the information that will be obtained in the field which can then determine the next action, namely research and product development. Needs analysis is carried out, among others, analysis of physical education and health subjects, physical education and health teachers and students. product design describes the combination of various learning stages that are neatly arranged starting from the easiest stage to the most difficult stage.

### 3. Results and Discussion

At this stage, the researcher developed a physical education and health learning management system through the sipojok application, which carries the theme or concept of a learning management system display based on interactive multimedia. The concept of the physical education and health learning management system through the sipojok application itself has characteristics that contain neatly arranged learning materials, have animations in the form of text, images, audio and learning videos. The following is the initial display design in table 4.1 of the physical education and health learning management system through the sipojok application.

**Tabel 4.1 Learning Management System Design Through Applications In The Corner**

No	Research Products	Information
1.		Initial display of learning media accompanied by developer photos. There is also a start button to go to the learning media menu
2.		The display on the learning media menu, which is accompanied by the title of the learning media, materials, quizzes, and developer profiles. In the upper left corner there is a mute button that has the function of turning the background on or off.

<p>3.</p>		<p>If the user is ready to work on the quiz prepared by the developer, the user can immediately press the start button.</p>
<p>4.</p>		<p>If the user has finished the quiz, the score will appear immediately along with the evaluation results.</p>

The results of the needs analysis conducted on students at SD Negeri 2 Pakis Kembar with an audience of 30 students are presented in table 4.2 as follows:

**Tabel 4.2 Results of Student Needs Analysis at SD Negeri 2 Pakis Kembar**

No	Component	Findings	Percentage
1	The results of the questionnaire for the analysis of research needs and development of a learning management system for physical education and health subjects through the Sipojok application at SD Negeri 2 Pakis Kembar	a. Students agree if a physical education and health learning management system is created for the physical education and health subject through the Sipojok application at SD Negeri 2 Pakis Kembar.	100%
2	Media used to support the learning management system at SD Negeri 2 Pakis Kembar	<p>a. Students at SD Negeri 2 Pakis Kembar want interactive multimedia-based learning media.</p> <p>b. Students at SD Negeri 2 Pakis Kembar want a learning management system based on interactive multimedia that is more interesting for learning.</p>	100%

Based on the needs analysis data above, it can be concluded that students at SD Negeri 2 Pakis Kembar need an update in the learning management system for physical education and health subjects. The update is expected to improve the quality of learning for students at SD Negeri 2 Pakis Kembar. The results of the teacher needs analysis at SD Negeri 2 Pakis Kembar in table 4.3 are as follows:

**Table 4.3 Results of Teacher Needs Analysis**

No	Component	Findings	Percentage
1	Results of teacher needs analysis questionnaire, research and development	a. Teachers strongly agree if they are given a learning management system for	100%

of learning management system in physical education and health subjects through the Sipojok application	physical education and health subjects through the Sipojok application.
---	---

Based on the data from the teacher needs analysis, it can be concluded that teachers agree to the development of a learning management system for physical education and health subjects through the Sipojok application.

In the research and development of this learning management system, the researcher involved three validators. Consisting of material expert validation, namely a validator who helps in validating the material contained in the learning management system. The second is a media validator, namely a validator who helps in validating the media concept of the learning management system. And the third validator is a learning expert, namely a validator who validates the learning material. The product design that was developed was then evaluated by material experts, the results of the material expert evaluation are presented in table 4.4 as follows:

**Table 4.4 Results of Material Expert Evaluation Data**

No	Expert Material	X	Xi	%
1	Expert Material	100	100	100%

Based on the results of the evaluation of the material experts above, it can be concluded that the research and development of the learning management system in physical education and health subjects through the Sipojok application can be used to support the learning process at SD Negeri 2 Pakis Kembar. The product design that was developed was then evaluated by media experts, the results of the media expert evaluation are presented in table 4.5 as follows:

**Table 4.4 Media Expert Evaluation Data Results**

No	Media Expert	X	Xi	%
1	Media Expert	100	100	100%

Based on the results of the evaluation of the media experts above, it can be concluded that the research and development of the learning management system in physical education and health subjects through the Sipojok application can be used to support the learning process at SD Negeri 2 Pakis Kembar. The product design that was developed was then evaluated by learning experts, the results of the evaluation of the learning experts are presented in table 4.6 as follows:

**Table 4.6 Results of Learning Expert Evaluation Data**

No	Learning Expert	X	Xi	%
1	Learning Expert	100	100	100%

Based on the results of the evaluation of the learning experts above, it can be concluded that the research and development of the learning management system in physical education and health subjects through the Sipojok application can be used to support the learning process at SD Negeri 2 Pakis Kembar. Input and suggestions from material experts are processed using formulas and scores for each answer that has been selected, the formula and score are as follows:

$$Persentase = \frac{X}{Xi} \times 100 = \frac{100}{100} \times 100 = 100\%$$

Description:

P : Percentage of overall results of the evaluation of the trial subjects.

X : Total number of answers of the trial subjects in all aspects of the research.

Xi : Total number of maximum scores of the trial subjects in all aspects of the assessment.

100% : Constant.

After the product design has been completed through the evaluation stage of three material experts, the research and development product design is ready to be tested in small groups. The small group trial on the research and development of the learning management system in physical education and health subjects through the Sipojok application at SD Negeri 2 Pakis Kembar was obtained from filling out a questionnaire distributed to 12 students and to 36 in the large group trial. The data from the small group and large group trials in table 4.7 are as follows:

**Table 4.7 Trial Result Data (Small Group and Large Group)**

No	Trial Data	X	Xi	%
1	Small group trial (n=12) with a total of 10 questions	100	100	100%
2	Large group trial (n=36) with 10 questions as the instrument	100	100	100%
<b>Rata-Rata Persentase</b>		<b>100</b>	<b>100</b>	<b>100%</b>

$$Persentase = \frac{X}{Xi} \times 100 = \frac{100}{100} \times 100 = 100\%$$

Description:

P : Percentage of overall results of the evaluation of the trial subjects.

X : Total number of answers of the trial subjects in all aspects of the research.

Xi : Total number of maximum scores of the trial subjects in all aspects of the assessment.

100% : Constant.

Based on the data obtained from the results of small group and large group trials, it can be concluded that the research and development products of the learning management system in physical education and health subjects at SD Negeri 2 Pakis Kembar are suitable for use as a support in the learning process.

After passing the validation stage consisting of (material experts, media experts and learning experts) researchers will get an initial product that is ready to be tested on small groups, after the small group trial stage, researchers revise the product. After revising the product, researchers re-conduct large group trials and re-revise the results of the large group trials. After revising the large group trials, researchers conduct operational field tests, after conducting operational field tests, researchers revise the final product. After revising the final product, researchers disseminate and implement the product.

Product trials are conducted by collecting data that can be used as consideration or measurement of the level of product validity to be used in learning. The trial design is by presenting the product to the research subjects and then the research subjects provide feedback on the products presented by filling out the questionnaires that have been provided. The trial subjects in this research and development are material experts, media experts, learning experts and research subjects (students).

The types of data used in this study are qualitative and quantitative data. Qualitative data are in the form of suggestions and input from several experts. While quantitative data are obtained from research subjects, namely students. The data collection instrument in this research and development is in the form of a questionnaire, the type of questionnaire used is closed using a Likert scale. The data analysis technique in this research and development is by using descriptive analysis techniques.

The data presentation is presented in the form of a sipojok application, which contains a physical education and health learning management system for elementary schools. This research and development is based on the results of data analysis obtained during the initial observation. After the initial product design of the physical education and health learning management system, an expert review was conducted, consisting of material experts, media experts, and learning experts. After the expert validation process, it was continued to the next stage, namely the small group trial stage. At the small group trial stage, research data will be obtained to be used as revision material. After making revisions, the product is field tested on a larger scale. From the field trial, data is obtained as material for revising the product. The next stage is the operational field test stage, after conducting the operational field trial stage, product refinement is carried out so that the product can be disseminated.

#### **4. Study and Suggestion**

The final result of this research and development is the development of a learning management system in physical education and health subjects through the sipojok application. With this research and development, it is expected to increase students' interest in learning and at the same time it is expected to improve the quality of learning. The researcher's suggestion for utilization in learning and teaching activities is expected to improve the quality of learning and increase students' interest in learning. Dissemination suggestion, the researcher suggests that it be socialized to related parties. And further development suggestions should be tested for their level of effectiveness.

#### **3.1. Conclusion**

The learning management system is expected to be a solution to problems in the learning process, in a good learning management system it will certainly have a positive impact on the learning process. In addition, the renewal of the learning management system is considered to answer global challenges, especially in responding to technological advances. Research and development of this management system prioritizes literacy, numeracy and science programs contained therein. In addition to literacy, numeracy and science programs, technology is also applied as an effort to renew the learning process. The renewal of the learning management system through the Sipojok application is considered effective and efficient, because it prioritizes the role of technology in every learning process.

#### **Author Contributions**

Muhammad Jerit Aldo Rizaldis

Nim 240132802872

Master of Education Management Program

Faculty of Education

I compiled this proceedings article as a Mid-Semester Exam assignment for the curriculum renewal management course. In addition, this article was written based on a needs analysis in the learning process

## References

- Akbar, S & Sriwiyana, A. 2010. Pengembangan Kurikulum dan Pembelajaran Ilmu Pengetahuan Sosial (IPS). Yogyakarta: Cipta Media
- Borg, W. R. & Gall, M. D. 1983. Educational Research: An Introduction, 4th ed. London: Longman inc.
- Dwiyogo, Wasis D. 2008. Aplikasi Teknologi Pembelajaran Pendidikan Jasmani dan Olahraga. Malang:Universitas Negeri Malang.
- Kementrian Pendidikan dan Kebudayaan, 2014. Pendidikan Jasmani Olahraga dan Kesehatan. Jakarta:Pusat kurikulum dan perbukuan, Balitbang, Kemdikbud.
- Sisdiknas. 2003. Undang-Undang Republik Indonesia Nomor 20 tahun 2003. tentang Sistem Pendidikan Nasional. Jakarta: Depiknas.
- Sukmadinata, 2005. Metode Penelitian Pendidikan. Bandung: Remaja Rosdakarya.
- Trianto. 2009. Mendesain Model Pembelajaran Inovatif-Progresif. Jakarta:Prenada Media Group.
- Winarno. 2006. Pengembangan Karakter Bangsa Melalui Pendidikan Jasmani dan Rohani. Malang:Universitas Negeri Malang.