

# Schoology-Based Learning Management Development On Badminton Courses

Pungki Indarto<sup>1\*</sup>, Gatot Jariono<sup>2</sup>, Nurhidayat<sup>3</sup>,  
Maladhan Fajar Ridlo<sup>4</sup>, Iwan Hermawan<sup>5</sup>

<sup>1234</sup>Sport Education, Teacher Training and Education Faculty, Universitas Muhammadiyah  
Surakarta, Indonesia Indonesia

<sup>5</sup>Sports Science Study Program, Faculty of Sports Sciences, Universitas Negeri Jakarta,  
Indonesia

\* Corresponding author:

Email: [pi311@ums.ac.id](mailto:pi311@ums.ac.id)

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## **Abstract.**

*The purpose of this research is to develop learning management on Schoology-based badminton courses. The results are expected to know the validity, effectiveness, and response of students to the management of the learning. The research was conducted in the FKIP UMS Sports Education Study Program. The subject of the study is a seventh-semester student in 2020. Research methods used by ADDIE (Analysis, Design, Development, Implementation, Evaluation). The results showed that the study of material experts obtained a score of 44 with a percentage of 81.43% with a very valid category. Media experts with a score of 85 with a percentage of 79% are included in the Valid criteria. Effectiveness of learning management of 1.12 including Strong Effect. Students' responses to learning management used scored an average of 80, 96%. This research concludes that the development of schoology-based learning management can be applied in badminton learning in universities.*

**Keywords:** management development, Schoology, badminton.

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## **1. INTRODUCTION**

Thoroughly both physical and spiritual aspects is a form of exercise. According to physical activity is a sports activity carried out by a person that is carried out both indoors and outdoors to maintain fitness[1]–[3]. This is in line with the stated ability and ability of a person to carry out his daily duties with an effective and efficient spirit for a relatively long time without causing significant fatigue and still have the reserve energy to carry out other activities[4], [5].

Form of activities carried out indoors and outdoors Exercise can be done with tools or without tools or using limbs. Various sports can be done, one of which is sports games. Sports games use tools and others to play them [6]. One of the sports games that require tools and others to play them is badminton. A sport that requires *rackets and shuttlecocks* where *shuttlecocks* are hit with racquets beyond jarring stretched in the middle of the field [7]. Based on the definition of badminton can be

concluded as a sport of games performed by two or more people using rackets, *shuttlecocks*, and nets played on the field of field.

The above definitions should be supported by the theory of agreed and established rules for performing badminton games. Badminton theory and practice can be done in the Education unit. The scope of badminton learning taught is one of them in the Sports Education Study Program of the Faculty of Teacher Training and Educational Sciences of Universitas Muhammadiyah Surakarta. What happens in lectures is that students do not yet have a basic theory in badminton and how lecturers provide effective learning management methods.

Related to these two things, researchers surveyed to find out why students do not know the basic theory of badminton and explore what methods are done so that learning can run effectively. Researchers surveyed to find out why students do not know badminton theory. The results of the first survey, known students lacked a source of reference. Second, students do not have enough time to read or learn about badminton theory due to other lecture activities. Third, students are less interested in the learning management presented.

The results of the survey are based on badminton courses which are compulsory courses given in the seventh semester with a weight of 2 Credits. Badminton courses are presented in the form of theory and practice. The materials taught in this lecture are badminton history, infrastructure, play techniques, game rules, and badminton learning. The results of the student's desired learning survey show that badminton learning must meet easy, interesting, interactive, and clear indicators.

The facts of the *survey results* provide an overview between lecturers and students have a link in achieving good learning. Learning is the process of interaction between learners and educators by paying attention to learning resources in a learning environment. Effective learning is learning that pays attention to the ability of learners who consider the results of learning and management of learning [9].

The achievement of the indicators that educators want can't be separated from how the method of making learning design. Learning management in learning can be obtained from several sources in the form of books, modules, handouts, LKS, audio, video, and interactive teaching materials. science and technology make learning media and management easier and more interesting by utilizing face-to-face and virtual learning. The ability to understand the development of science and technology requires logical, systematic, and critical thinking and effective cooperation. Badminton learning materials by utilizing advances in technology and information designed in learning management make the process of understanding and effectiveness of material delivery easier. This is following that e learning-based management will facilitate in collecting tasks, delivering materials, and interaction between educators and learners.

The development of learning by supporting mobile-based technology will open up users of technology devices in the world of Education. Education Management based on *e-learning* is one of them is the Schoology platform. Schoology is one of *the*

*learning management system* (LMS) that has accessible features, has settings on the value, there is a discussion media that facilitates learning [9]. Systematically the use of Schoology in learning management will help in learning barriers in badminton lectures.

Research studies related to Schoology give an idea that the features in it are interesting and affect the learning outcomes of learners.[9] This means that the development of schoology-based learning management can be applied in badminton courses because it meets easy, interesting, and interactive elements. Also, there is a learning activity control system for students. The development of Schoology-based learning management in badminton courses becomes more systematic if there are the following: (1) the display of profile pictures of courses is made interesting; (2) the preparation of the material shall be conveyed in the form of folders with a clear color and identity; (3) on the content of varied materials files, pdf, mp4, and jpeg; (4) tasks and discussions shall be made variative, assessment, assignment, quiz; (5) pulpit discussions to discuss actual issues.

Therefore, this research will be developed learning management in Schoology-based badminton courses. It is hoped that this learning management can help students in understanding badminton materials and help lecturers in organizing badminton learning more effectively. Based on these considerations conducted research entitled "Schoology-based learning development in badminton courses".

## II. METHODS

Research is development research, as this research was carried out in march-June of 2020. The research subjects were students of the Sports Education Study Program of the Faculty of Teacher Training and Educational Sciences of the Muhammadiyah University of Surakarta in the 7th semester of the 2017 class who had received badminton material. The number of subjects is 40 students. Data collection techniques in the form of multiple-choice written tests, management assessments, and questionnaires for responses with a *google form*. The validation, the sheet was done by 2 UMS lecturers. In both validators state that the instrument is feasible or valid. Furthermore, the test question was tested to see the reliability of the question item. A reliability test is used to determine the consistency of the measuring instrument, whether the measuring instrument used is reliable and consistent when re-measuring [10].

## III. RESULT AND DISCUSSION

Based on the research obtained valid learning management data and effective response from learning management developed. The results can be described as follows:

1) The validity of Schoology-based learning management development products

The results of the validity of Schoology-based learning management development products in badminton courses conducted by material experts and management experts. Activities carried out by badminton learning experts consist of three aspects, namely, language, content, and format. Find out the validation activities carried out by learning experts can be seen in table 1.

Table 1. Material expert validation results.

Aspects	Indicators	Score	Value V (%)	Criteria
Language	Language Clarity used	5	90	Very Valid
	Language Bacteriness used	5	70	Valid
	Material display	6	90	Very Valid
Content	Preparation of materials	8	90	Very Valid
	Material conformity	7	80	Valid
	Clarity of instructions	7	80	Valid
Format	Content dissingenance with the aim of	6	70	Valid
	Total	44	81.43	Very Valid

Based on the results of the validation of badminton defense material experts, it can be concluded that the material consisting of language, content, and assessment format is very valid. This is evidenced by the average score of the validation test of 81.43% in the criteria is very valid. Furthermore, after obtaining the validation of the material, a media validation test is carried out that assesses aspects of product quality that are divided into several indicators, namely seen from the quality of colors, images, letters, video, audio, location, material display, the appearance of questions and answers, discussion display, and clarity of instructions, for more details can be seen in table 2.

Table 2. Media expert validation results

Aspects	Indicators	Score	Value V (%)	Criteria
Product Quality	Color	8	80	Valid
	Pictures	8	80	Valid
	Letter	8	70	Valid
	Video	7	90	Very Valid
	Audio	7	90	Very Valid
	Location	8	80	Valid
	Material display	10	80	Valid
	Question and answer views	9	80	Valid
	Discussion view	9	70	Valid
	Clarity of instructions	12	70	Valid
	Total	86	79	Valid

Based on the results of the validation of badminton defense media experts, it can be concluded that the material insi consisting of language, content, and assessment format is very valid. This is evidenced by the average score of the validation test of 79% invalid criteria. Furthermore, after obtaining validation of the material, the

effectiveness test of Schoology-based learning management development in badminton courses was carried out,

- 2) Test the effectiveness of Schoology-based learning management development in badminton courses.

The purpose of the effectiveness test of Schoology-based learning management development is to know that the development of teaching materials is effective or not used in the badminton learning process. Effective or not the development of Schoology-based learning management in badminton courses can be seen from *the effect size through the results* of the initial test and the final test that can be seen from the table 3 view.

Table 3. Effectiveness of Management Products

pretest	posttest	<i>Effect size</i>	<i>interpretation</i>
14.52	23.54	1.12	<i>Strong effect</i>

The results of the effectiveness test of Schoology-based learning management development are in a strong category. Furthermore, after it is known the effectiveness of this model, the next response from students about the use of Schoology media about teaching materials that utilize the media.

- 3) Student response in Schoology-based learning management development

The development of learning management responded by students about the utilization of Schoology learning media consists of four aspects, namely, ease, clarity, attractiveness, and activeness. This response was measured by the dissemination of questionnaires after students used Schoology-based learning management development products in badminton courses which can be seen in the table below.

Table 4. Student Response to Learning Management Products

No	Indicators	Score	Percentage (%)	Categorical
1	Clarity	286	81.23	Very powerful
2	Attractiveness	225	80.09	Very powerful
3	Ease	312	83.23	Very powerful
4	Activeness	219	79.31	Strong
	Average	260.5	80.96	Very powerful

The average student response about the utilization of Schoology media in learning management consisting of clarity, attractiveness, ease, and activeness in learning related to badminton learning was obtained by 80.96% or in a very strong category. Thus, it can be concluded that Schoology-based learning management in badminton courses is very effective to be used as alternative learning during the covid 19 pandemics.

### Discussion

The development of Schoology-based defense management in badminton courses consists of expert validation of learning, validation of media experts, the effectiveness

of teaching materials, and student response. The explanation can be described as following:

### 1) **Validation of defense management experts**

Language Aspect, in language aspect, becomes an effective communication tool to channel purpose and meaning. Effective sentences greatly influence communication patterns between the speaker and the listener. It also affects the level of understanding of students in the presentation of information from lecturers, so lecturers need to use language well in written communication[11]. Aspects of Language has two indicators, namely the standard language used and the ease of students in understanding the language used. Indicators of 5 standards mean that valid criteria have the meaning of the language used in Schoology-based learning management in badminton courses following the rules of good and correct Indonesian language. In line with the opinion [12] said that the preparation of sentences, the use of language, difficulty, vocabulary, and clarity must be appropriate to be easy to understand by learners. Indicators of students' ease in understanding the language used got a score of 5 is very valid. This means that this management product has the use of language, sentence order, and words that are already effective.

Aspects of the content, in the content there are three indicators of assessment. The first indicator of material display obtaining a score of 6 is very valid. According to Sadjati[14], teaching materials should be displayed with interest. The attractive appearance makes students interested in following the content of the badminton material presented. The second indicator of material purification obtaining a score of 8 is very valid. in addition to the appearance, order, and ease of preparation of teaching materials make learners understand the content of the material. This means that judging from the indicators of product preparation of Schoology-based learning management development products in badminton courses have a systematic presentation of materials that make it easier for students to see badminton material. The third indicator of conformity between management and badminton material. The score obtained 7 with valid criteria. According to [14]), The presentation of content is conveyed logically and pays attention to the content from the common to the special or vice versa. This is intended to facilitate students in learning badminton material activities.

Aspects of the format, indicators in this aspect of the format there are two, namely, indicators of clarity of guidance or instructional work. E learning-based forms of learning must have a clear format to achieve learning goals [15]. The clarity score of 7 valid criteria means that students in reading the instructions are clear and understandable. The second indicator is the suitability of the content to obtain a score of 6 with valid criteria. According to Badriyah, learning media is a component of learning resources that must be able to load the content conformity to stimulate learners to learn[16].

### 2) **Media Expert Validation**

Aspects of product quality there are 10 indicators included in the assessment. The first indicator of product color obtains a score of 8 with valid criteria which means that the color display on the developed media has an attractive and versatile

color appearance so that it makes students interested. The second indicator is the image. one fosters interest in learning by providing media in the form of images to attract the attention of learners. In the image, the indicator gets a score of 8 with valid criteria. This means that images on product development have a good level of attention from students. The third indicator, namely letters, has a score of 8 with valid criteria meaning that the letters displayed in the development of Schoology-based learning management products in badminton courses can be applied in the media. The fourth indicator of the video, obtaining a score of 7 with criteria is very valid. The use of video helps learners improve their learning achievements. Fadhli the fifth indicator of audio with a score of 7 criteria is very valid. This means that information that cannot be done by writing can be replayed in audio as well as the form of the task given[16]. The sixth indicator of the location gets a score of 8 with valid criteria. This means that the display layout in the media includes sentences, titles, subtitles, images, photos are appropriate, making it easier for students to learn badminton material. The sixth indicator of the material display has a score of 10 with valid criteria. This means that the material displayed can be obtained easily. The seventh indicator of the question and answer display has a score of 8 with valid criteria. It means that students in doing the work on the problem have an easy and clear look. The display of answers from students to lecturers also has an easy and clear view. In the discussion display, there is a feature that displays the file *type* in the form of, video, pdf, photo, audio with a comment field so that students and lecturers are easier to conduct discussions. On this indicator get a score of 9 with valid criteria. The last indicator of the media aspect is the clarity of the instructions. Having a sense of how students access and apply schoology-based learning management in badminton courses is easy to operate and clear in the instructions for use. This was strengthened by a score of 12 with valid criteria.

### 3) Effectiveness

From the calculation of *effect, the size obtained* a value of 1.12 was classified as large. This means that Schoology-based learning management development products in badminton courses have an attractive appearance and are easy to operate from the media side so that students have an increased level of understanding with the increased value of learning outcomes. The effectiveness of Schoology-based learning management products in badminton courses can be seen from the results of *posttests that* have increased. This is strengthened by the opinion of Sin & Hudayani saying that the learning motivation of learners can be influenced by external factors, one of which is the media and learning methods that are interesting and easy to understand. This schoology has an *iconic* feature so that if students want to do learning activities just look at or memorize the icons (pictures)[16]. Kusumantara stated from his research that learning achievements from e-learning activities with Schoology have higher achievement value compared to conventional learning [16]. Learners have the opportunity to repeat less mastered material anywhere and anytime because they can easily access Schoology-based learning. This means that the development of schoology-based learning management is effective for use in learning in badminton courses.

#### 4) Student Response

Schoology-based learning management in badminton courses has been validated by management experts and AHL media and declared valid. Furthermore, a trial will be conducted for students of seventh-semester sports education FKIP UMS. The trial was conducted to see the response of students after using the development of Schoology-based learning management. The instrument uses student response questionnaires that are distributed *using google form* with 4 indicators, namely, clarity, attractiveness, ease, and activeness. The first indicator is clarity which obtains a positive percentage of 81.23% with a very strong categorical. This means that students are very clear in understanding badminton learning materials developed in Schoology-based learning management. The second indicator is that the interest has a percentage of 80.09% with a very strong categorical. This means that students are interested in the variations and features in Schoology-based learning management. The third indicator is the convenience with a percentage of 83.23% with a very strong categorical. It means that students in accessing badminton subject materials and assignments in Schoology-based learning management products can be done anywhere and anytime. The fourth indicator of students' activeness in learning. Can be seen the percentage of polling results of 79.31% by entering into a strong category. This means that the level of student participation in attending lectures presented in Schoology-based learning management is high

#### IV. CONCLUSION

The results of research and discussions carried out draw conclusions as follows: (1) Stages of development research carried out are to conduct analysis, design, develop, implement, and evaluate. (2) Schoology-based learning management development products are declared valid because they obtain validation values from material experts 81.43% (Very Valid) and media experts 79% (Valid). (3) The results of Schoology-based learning management development research on badminton courses are declared effective with *an effect size* of 1.12 with a very strong category. (4) the results of student response to the development of Schoology-based learning management products in badminton subjects with four indicators of clarity of 81.23% with a very strong category, 80.09% attractiveness with very strong categorical, 83.23% ease indicator with very strong category, and 79.31% activeness indicator with strong categorical. Overall, students gave a positive response to Schoology-based learning management products in this badminton course with an average score of 80.96% included in the very strong category.



**REFERENCES**

- [1] W. H. O. Who, "Global recommendations on physical activity for health," *Geneva World Heal. Organ.*, 2010, DOI: 10.1080/11026480410034349.
- [2] K. L. Piercy *et al.*, "The physical activity guidelines for Americans," *JAMA - J. Am. Med. Assoc.*, 2018, DOI: 10.1001/Jama.2018.14854.
- [3] "Physical activity guidelines for Americans.," *Okla. Nurse*, 2008, DOI: 10.1249/fit.0000000000000472.
- [4] G. Jariono and N. Subekti, "Sports Motivation Survey And Physical Activity Students Of Sports Education Teacher Training And Education Faculty FKIP Muhammadiyah University Surakarta," *Kinestetik J. Ilm. Pendidik. Jasm.*, 2020, DOI: 10.33369/jk.v4i2.12449.
- [5] G. Jariono *et al.*, "Analisis Kondisi Fisik Menggunakan Software Kinovea Pada Atlet Pendahuluan," vol. 16, no. 2, pp. 133–144, 2020.
- [6] Nanang Mulyana, "Upaya Meningkatkan Motivasi Belajar Dalam Aktivitas Perkuliahan Atletik Melalui Implementasi PAIKEM Nanang," *JUARA J. Olahraga*, 2017.
- [7] A. Z. Firdausi, Sriyono, and C. P. Asmoro, "Hubungan Dukungan Keluarga Dengan Kepatuhan Melakukan Latihan Fisik Dan Terapi Insulin Pada Pasien Diabetes Melitus Tipe 1 Di Poliklinik Penyakit Dalam RSUD Dr. Abdoer Rahem Situbondo," *Crit. Med. Surg. Nurs. J.*, vol. 4, no. 2, pp. 1–8, 2014, [Online]. Available: <https://e-journal.unair.ac.id>.
- [8] H. Firdaus, Sugiyono, and S. K. Purnama, "The Development Model of Badminton Base Technique Training Based of Audio-Visual Media for The Beginner Athlete," *J. Pendidik.*, 2018.
- [9] F. Fakhurrhazi, "Hakikat Pembelajaran Yang Efektif," *At-Ta'fikir*, 2018, doi: 10.32505/at.v11i1.529.
- [10] R. dewi & M. D. Noviyanti, "Hubungan Pengetahuan Gizi, Aktivitas Fisk, dan Pola Makan terhadap Status Gizi Remaja di Kelurahan Purwosari Laweyan Surakarta," *Univ. Res. Colloq. Univ. Muhammadiyah Magelang*, 2017.
- [11] R. Arifin and H. Warni, "Model Latihan Kelincahan Sepakbola," *Multilater. J. Pendidik. Jasm. dan Olahraga*, 2019, doi: 10.20527/multilateral.v17i2.5702.
- [12] A. R. Nugraha and K. N. Berawi, "The Effect of High-Intensity Interval Training (HIIT) toward Cardiorespiratory Fitness," *J. Major.*, 2017.
- [13] J. Nugraha, Z. MS, and N. Fuad, "Peningkatan Keterampilan Menulis Deskripsi Melalui Pendekatan Saintifik Dengan Metode Problem Based Learning Di Kelas IV Sekolah Dasar," *Pros. Semin. Nas. Pendidik. KALUNI*, 2019, doi: 10.30998/prokaluni.v2i0.37.
- [14] R. Rahimi, S. Sadeghi, B. ' A. Mozafari', and H. Faraji, "The effects of different rest intervals between sets on the training volume of female athletes," *Int. J. Fit.*, vol. 5, no. 1, pp. 61–67, 2009.
- [15] P. Indarto, "Model Pembelajaran Hybrid Learning Pada Mata Kuliah Sepakbola di Pendidikan Olahraga FKIP UMS," *JOSSAE J. Sport Sci. Educ.*, 2019, doi: 10.26740/jossae.v3n2.p69-75.
- [16] Badriyah, "Efektifitas Proses Pembelajaran Dengan Pemanfaatan Media Pembelajaran," *J. Lentera Komun.*, 2015.
- [17] T. H. Sin and F. Hudayani, "Studi motivasi siswa dalam mengikuti pembelajaran pendidikan jasmani olahraga kesehatan," *SCHOULID Indones. J. Sch. Couns.*, 2020, doi: <https://ijersc.org/>

10.23916/08588011.

- [18] K. S. Kusumantara, "Pengaruh E-Learning Schoology Terhadap Hasil Belajar Simulasi Digital Dengan Model Pembelajaran SAVI," *J. Pendidik. Teknol. dan Kejuru.*, 2017, doi: 10.23887/jptk-undiksha.v14i2.10387.