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Development of Limited Face-To-Face Learning Using the Flipped Classroom Model in PJOK Lessons at SMP PGRI Gandoang

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Abstract**—** *Limited study time and capacity of students in class on face-to-face learning policy is limited in the 2021 school year /2022 became one of the obstacles in achieving learning objectives so that the learning outcomes of students decreased. This study aims to develop limited face-to-face learning with the model Flipped Classroom in the subjects of Physical Education, Sports and Health class VII at SMP PGRI Gandoang, Bogor Regency in improving student learning outcomes and to determine the feasibility and effectiveness of these products in implementing limited face-to-face learning. during the COVID-19 Pandemic. The research method used is Research and Development (R&D) or research development with the ASSURE model combined with the learning design model blended PEDATI. The research subjects in this study were students of class VII-C, totaling 35 people. The percentage of test results by experts include: (1) material experts obtained a score of 89% (Good); (2) learning media experts obtained a score of 91% (Very Good); and (3) learning design experts obtained a score of 91% (Very Good). Meanwhile, the results of the test on students include: (1) the one-to-one test obtained a score of 94% (Very Good); (2) the small group test obtained a score of 90% (Very Good) and (3) the field trial obtained a score of 91% (Very Good). Furthermore, the learning outcomes of students showed an increase from the results of the pre-test and post-test results obtained by the N-Gain Score of 0.63. These results indicate that the learning product is very feasible and effective enough to be applied to the subjects of Physical Education, Sports and Health in limited face-to-face learning.*

Keywords**—** *Flipped classroom, development, limited face-to-face learning.*

I. INTRODUCTION

The COVID-19 pandemic that has occurred since March 2019 has caused various problems in various aspects of life, one of which is the problem of education. Approaching the 2021/2022 school year, based on a Joint Decree (SKB) of 4 Ministers, that the implementation of learning during the Corona Virus Disease 2019 (COVID-19) pandemic is carried out by: (a) limited face-to-face learning while still implementing Health protocols; and/or (b) distance learning (Dirjen PAUD Dikdasmen, 2021). Based on the decision of the Bogor Regent Number: 443/408/Kpts/Per-UU/2021 dated August 24, 2021 regarding the Enforcement of Large-Scale Social Restrictions Pre-Adaptation of New Habits Towards a Healthy, Safe, and Productive Society through the Enforcement of Restrictions on Community Activities Level 3 Corona Virus Disease 2019 (COVID-19), that the implementation of teaching and learning in schools in the Bogor Regency area can be carried out through limited face-to-face learning (PTM) (Bogor Regent, 2021). Learning is carried out with the provisions of the capacity of students in the class as much as 50% by applying strict health protocols and learning time is limited to 2 hours. The limited capacity of the number of students who attend and the limited learning time during face-to-face learning (PTM) causes the school to still have to carry out distance learning.

Physical education, sports and health (abbreviated PJOK) as one of the subjects that require physical activity in learning activities will have its own obstacles during the learning process during the COVID-19 pandemic. William H. Freeman stated that physical education uses physical activity to achieve an overall improvement in the physical, mental, and emotional qualities of learners (Freeman, 1992). In addition, another problem in PJOK learning is that the time allocation which is only 3 (three) hours per week must be reduced in the implementation of limited face-to-face learning. This requires teachers to be able to choose the right strategy in the learning process. One of the learning models that are in accordance with current conditions is to apply a mixed learning model or commonly referred to as *blended learning* with the type *flipped classroom*.

To overcome this, the researcher considers it necessary to develop limited face-to-face learning by using the model *flipped classroom* on PJOK subjects at SMP PGRI Gandoang. According to Borg and Gall, research development is a research project aimed at developing and validating knowledge products (Gal et al., 1996). Arief explained that development research aims to develop new things in certain fields without wanting to test certain theories (Arief, 2012). In this case it can be interpreted that educational products are not only limited to the development of teaching materials such as textbooks and learning films, for the development of learning methods and methods such as learning methods and organizations.

In conventional learning, there are many development models in learning. Based on its characteristics, Gustafson and Branch classify the learning development model into three models, namely: 1) class-oriented model, 2) product-oriented model, and 3) system-oriented model. The learning development that will be carried out is related to learning activities in the classroom, one of which is the Heinich, Molenda, Russel, and Smaldino development model known as ASSURE. Sezer revealed that the ASSURE model consists of six steps, (Sezer et al., 2013), namely: (1) *analyze learners*, (2)

state objectives, (3) *select methods, media, and materials*, (4) *utilize media and materials.*, (5) *require learner participation*, and (6) *evaluate and revise*.

In addition to the ASSURE development model, in this development research, because learning is carried out face-to-face in class (conventional), it is also carried out through distance learning or online learning. For this reason, researchers in designing limited face-to-face learning with *flipped classrooms* on PJOK subjects combine the ASSURE model with PEDATI which is an acronym for Pelajari (Learn), Dalami (Explore), Terapkan (Apply), and Evaluasi (Evaluation) developed by Chaeruman. PEDATI describes a systematic and logical step of learning activities, and in which there are clear and interconnected elements to develop *blended learning* (Chaeruman, 2015).

The word *blended learning was* originally used to describe learning that combines face-to-face learning activities with online learning activities (Efgivia, 2019). In *blended learning*, learning is processed so that one component is not just an additional method, but becomes a single unit. Blended learning-based learning consists of at least 6 (six) elements, namely: (1) face-to-face teaching (2) independent learning, (3) application, (4) tutorials, (5) collaboration and (6) evaluation (Idris, 2018). The setting *blended learning* consists of two categories, namely, synchronous and asynchronous learning (Chaeruman, 2015). Concurrent learning is synchronous virtual learning and synchronous learning and synchronous learning from synchronous and collaborative learning. One of the learning approaches of the model *blended learning* is the *flipped classroom*.

Basically, the concept of learning *flipped classroom* is that students at home do what they do in class, namely learning to understand the material provided by the teacher, and students in class do what students usually do at home, namely solving problems and solving problems (Bergmann & Sams, 2012). The principle of the flipped classroom is that homework, such as problem solving, is best done in the classroom under the guidance of a teacher (Herreid & Schiller, 2013). In general, the application of this model begins with online learning at home. During online learning, teachers use certain applications to provide teaching materials that students can study independently. Furthermore, the teacher facilitates students during learning in classes to deepen the learning concepts that students learn at home by intensifying various problem-oriented exercises and project work.

To facilitate learning activities *online*, researchers used the *Learning Management System* (LMS) *Google Classroom*. *Google Classroom* is a free service *web* developed by Google for learning activities, which aims to simplify, create, distribute, and grade assignments without having to do face-to-face in class. The main purpose of *Google Classroom* is to facilitate the process of sharing files between teachers and students.

Another factor behind this research is the learning outcomes of Class VII Physical Education, Sports and Health at SMP PGRI Gandoang in learning *online for* subjects the 2020-2021 school year, showing the average score of students is 68.82 with the KKM Education Unit of 70. Meanwhile learning completeness reaches 52% complete and 48% not complete must follow the remedial program. Therefore, according to the researcher, it is necessary to develop a limited face-to-face learning model so as to produce a learning design that can be applied and effective in the subjects of Physical Education, Sports and Health in limited face-to-face learning.

II. Research Methodology

This study aims to design a limited face-to-face learning model with a model *flipped classroom* on Physical Education, Sports and Health subjects so that learning during the COVID-19 pandemic can run effectively. The methodology used is research and development (R&D/RandD) and the approach uses the ASSURE development model combined with the PEDATI blended learning model. The research subjects were class VII-C SMP PGRI Gandoang, Bogor Regency. The method of collecting data is through interviews, questionnaires and tests.

III. Research Results

The development of face-to-face learning is limited to the model *Flipped Classroom* in this study using the ASSURE development pattern combined with the learning design *blended* PEDATI.

a. Analysis of students,

The results of the observation process in the analysis of students obtained student data as follows: initial abilities of students: a) students are familiar with technology in terms of operating gadgets or computers; b) students already know and use the google classroom before; c) students are accustomed to accessing the internet; d) students already know the material to be taught. Learning styles: a) students tend to like collaborative and group learning; b) students prefer to learn to use computers or other gadgets; c) students like fun learning. Characteristics of students: a) students consist of heterogeneous groups, coming from different ethnic groups, with an age range of 11-13 years; b) students are accustomed to independent learning; c) students are accustomed to using the internet.

b. Determining learning objectives

Next is to determine learning objectives which are the stages of the process of how to design in determining the main components of learning objectives. In this study, the material that will be taught to students is "Specific Movement of Volleyball Game". Then it can be formulated that the learning objectives are after conducting limited face-to-face learning and distance learning through the flipped classroom model, students can: 1) identify the specific movements of the volleyball game with full responsibility and confidence; 2) evaluate the specific motion of the volleyball game with full responsibility and confidence.

c. Choosing Strategies, Media and Materials

The strategy chosen for limited face-to-face learning is blended learning with a flipped classroom model where the learning activities consist of: (1) synchronous, through face-to-face and virtual face-to-face learning; and (2) asynchronous, through collaborative and independent learning. Media and

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materials that will be used in learning can be presented in the following table:

TABLE 1. Material and Media Needs

No	Materials	Media
1.	Definition and origin of volleyball	Learning Video
2.	Volleyball fieldVolleyball	
3.	Game Rules	Presentation
4.	Specific movements passing	Learning Video
5.	Service specific motion	
6.	Playing the ball through the rope Playing	field
7.	Volleyball game on a small court	

d. Applying Strategy, Technology, Media and Materials

Based on the mapping of synchronous and asynchronous learning, it is obtained that learning will be carried out synchronously and asynchronously. Synchronous learning is divided into sub-subjects that will be taught through direct synchronous and virtual synchronous. While asynchronous learning consists of sub-subjects that will be taught asynchronously collaboratively and independently asynchronously.

The learning process begins simultaneously with the design of specific learning activities. Learning activities take place using the *Learning Management System* (LMS) *Google Classroom*, *Google Meet* and classroom learning.

Learning activities begin with the delivery of material using learning videos produced by the teacher and continue with giving independent assignments. The following is a description of independent asynchronous learning activities:

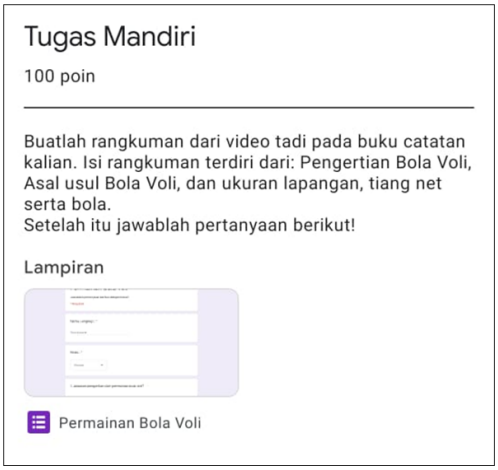

Figure 1. Independent asynchronous learning activities

The next learning process is carried out designing virtual asynchronous learning activities to complete the achievement of the first learning objectives according to the synchronous and asynchronous learning mapping that has been made. Learning activities take place using the application *Google Meet teleconference* whose links are shared through *Google Classroom*. Virtual learning activities are shown in the figure below:

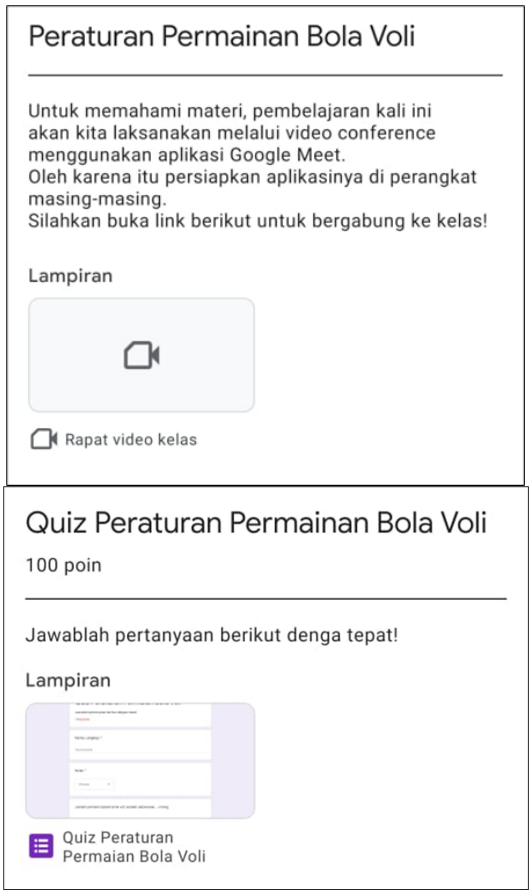

Figure 2. Virtual synchronous

The following is a description of collaborative asynchronous learning activities in *Google Classroom*:

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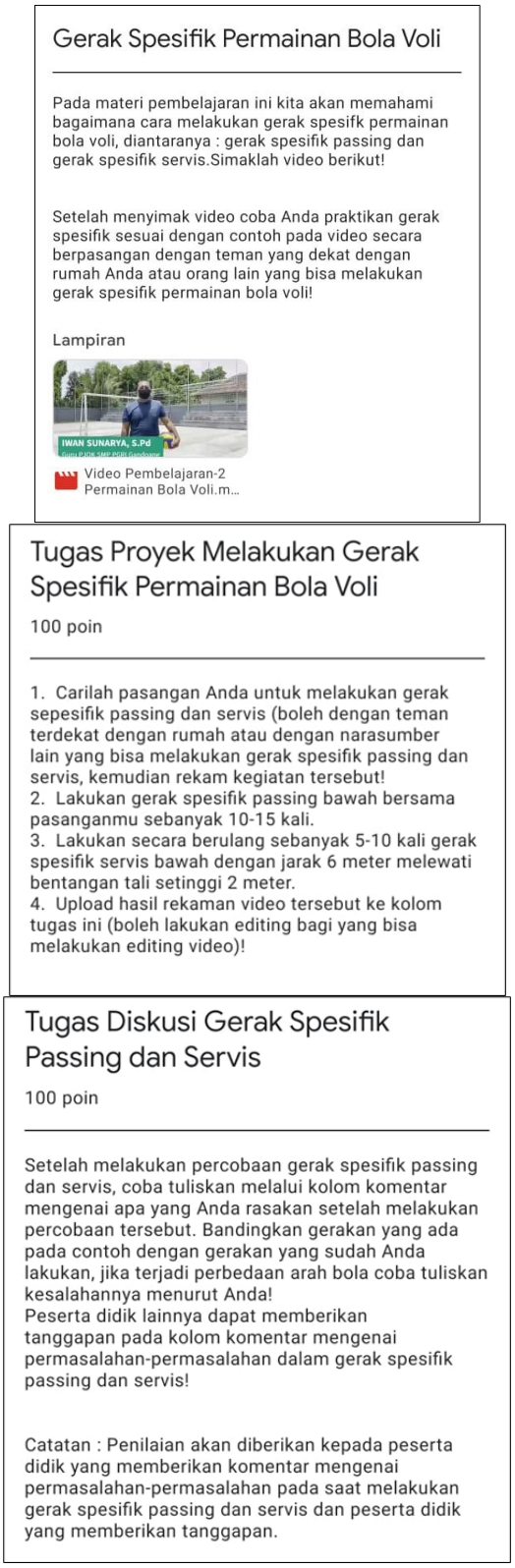

Figure 3. Collaborative asynchronous

Learning activities are conducted through learning activities at the same time. This activity takes place face-to-face in class, but in connection with the learning that will be carried out in the form of practice, this direct synchronous learning activity is carried out outside the classroom, namely the sports game field. Direct synchronous learning activities are presented in the following figure:


Figure 4. Direct synchronous learning activities

e. Student Participation

At this stage, students have been confirmed to join the *Online* Class for Class VII PJOK subjects made using the application *Google Classroom*. Through *Google Classroom* PJOK Class VII, students can study learning materials outside the classroom and determine where to study according to their respective learning comfort criteria. Then students can also have discussions through the comments column and upload assignments given by the teacher through *Google Classroom*.

f. Evaluation and Improvement

The evaluation of this development model is carried out with the help of a graduate work test and evaluation of the summary of the models with one-to-one testing steps, small group testing and field testing. While evaluating student learning outcomes using tests in the form of multiple choice questions. Based on the results of the study of material experts, the feasibility results obtained are 89% (Good) with material suggestions with more developed learning methods. The results of the feasibility of media experts obtained a score of 91% (Very Good) and suggestions from experts were that the display was made more attractive. The results of the design expert's feasibility test get a score of 94% in the very good category and get suggestions so that each content contains how long asynchronous learning takes.

The results of the formative evaluation by students obtained a test score of *one-to-one* 94% in the very good category, 90% small group test in the very good category and 91% in the field test in the very good category. Thus, it can be concluded that the limited face-to-face learning prototype with the model *flipped classroom* for Physical Education, Sports and Health subjects in class VII SMP PGRI Gandoang is very feasible to use. with the analysis of the *N-Gain Score* of 0.63 and included in the medium category. There are 17 students in the category of *N-Gain Score*, High 18 students with category *N-Gain Score* moderate, and 3 students who received *N-Gain Score* with low category. So it can be concluded that face-to-face learning is limited with the model *flipped classroom* for Physical Education, Sports and Health subjects in class VII SMP PGRI Gandoang is quite effective in improving student learning

outcomes.

IV. CONCLUSION

Based on the results of research and development, it can be concluded that the limited face-to-face learning design using a *flipped classroom is* very feasible and quite effective to be applied to Physical Education, Sports and Health subjects for class VII at SMP PGRI Gandoang. With the availability of four rooms for limited face-to-face learning activities with the model *flipped classroom*, namely through independent asynchronous, collaborative asynchronous, virtual synchronous and direct synchronous, it can be a solution in delivering material in the implementation of limited face-to-face learning processes during the pandemic to deal with the amount of material that must be delivered. on the students while the time allocation is very so that there is no *learning loss*.

REFERENCES

[1]. Arief, Z. A. (2012). Metodologi Penelitian Pendidikan. *Bogor: Widya Sakti*.
[2]. Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. International society for technology in education.
[3]. Bupati Bogor. (2021). *Perpanjangan Keempat Pemberlakuan Pembatasan Sosial Berskala Besar Pra Adaptasi Kebiasaan Baru Menuju Masyarakat Sehat, Aman, Dan Produktif Melalui Pemberlakuan Pembatasan Kegiatan Masyarakat Level 3 Corona Virus Disease 2019 (Covid-19) Di Kabupaten Bogor*.
[4]. Chaeruman, U. A. (2015). Model Desain Sistem Pembelajaran Blended. In *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis* (Vol. 53, Issue 9). https://doi.org/10.13140/RG.2.2.15595.90408
[5]. Dirjen PAUD Dikdasmen. (2021). *Pembelajaran Tatap Muka Dilaksanakan Secara Terbatas*. http://ditpsd.kemdikbud.go.id/artikel/detail/pembelajaran-tatap-muka-dilaksanakan-secara-terbatas
[6]. Efgivia, M. G. (2019). Pengaruh Media Blanded Dan E-Learning Terhadap Hasil Belajar Mahasiswa Pengembangan Media Audio Mahasiswa Semester IV TP UIKA Bogor. *Jurnal Teknologi Pendidikan*, *4*, 85–96.
[7]. Freeman, W. H. (1992). *Physical education and sport in a changing society*. (Issue Ed. 4). MacMillian Publishing Company.
[8]. Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational research: An introduction*. Longman Publishing.
[9]. Herreid, C. F., & Schiller, N. A. (2013). Case studies and the flipped classroom. *Journal of College Science Teaching*, *42*(5), 62–66.
[10]. Idris, H. (2018). Pembelajaran Model Blended Learning. *Jurnal Ilmiah Iqra'*, *5*(1), 61–73. https://doi.org/10.30984/jii.v5i1.562
[11]. Sezer, B., Karaoğlan Yılmaz, F. G., & Yılmaz, R. (2013). *Integrating technology into classroom: the learner centered instructional design*.