

# Implementation of Simulation Models for Learning Physical Education during the COVID-19 in Banjarmasin

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**Abstract:** The purpose of this study is the implementation of a simulation model of instruction physical education during the COVID-19 pandemic. They used methods with a quantitative approach and involving level 7 and 8 learners as many as 180 students—random sampling techniques, using questionnaire instruments. Instructional models used by physical education teachers tend to be less varied. This causes the teacher confusion to carry out learning activities in these situations and conditions. After the survey, some teachers are still active in distance learning and continue to communicate with their students. The instructional model used is simulation. Teacher and student communication media using Whatsapp. The aspects assessed during the learning process are affective (social attitude), cognitive, and psychomotor aspects. Communication is the essential point for carrying out learning using distance simulation methods and especially assessment techniques.

**Keywords:** Physical education, physical literacy, simulation models, self- assessment, project assessment

## 1. Introduction

Physical education does not only emphasize movement skills. Cognitive aspects are also essential. Teachers may only think that mental aspects are only obtained by theory alone. The concept highlights the development and maintaining of all-around embodied competence, together with positive attitudes towards this sphere of human activity (Whitehead, 2007). Affective aspects in physical education goals must be achieved, especially as an impact of learning outcomes, namely motivation and social attitudes, to carry out movement activities to achieve a healthy life. Expected motivation as a result of physical education learning is one of the main goals of physical literacy and self-confidence and physical activity. Physical literacy is the motivation, confidence, physical competence, knowledge, and understanding to maintain physical activity throughout the life course(Whitehead, 2010).

Psychomotor aspects in physical education are the main aspects. Of course, psychomotor aspects in physical education differ from psychomotor aspects in other fields such as language, natural sciences, or even social sciences. One common cause for the attention given to both physical literacy and ability as concepts and social constructions is the structural changes in society that have influenced children's and adolescents' physical activity (PA) habits and the concern about increased sedentary lifestyles(Chen & Sun, 2015; Lundvall, 2015).

Sports and health physical education is education through physical and sports activities chosen to achieve educational goals. From this understanding, it confirms that physical education and sports are an inseparable part of general education. The aim is to help children grow and develop naturally following national education objectives, which is to become a complete Indonesian human being. The model describes the behavior, psychological and physical components that encompass Physical Literacy(Mullen et al., 1987; Whitehead, 2001).The instructional model is a plan or pattern used as a guide in planning learning in class or tutorial learning. Methods of delivery for traditional Physical Education and online physical education (OLPE) should differ only on instructional approach(Mohnsen, 2012). The learning model refers to the learning approach used, including teaching objectives, stages in learning activities, learning environment, and classroom management. They were learning methods that are used to achieve the goals set(Kistner et al., 2015; Vincent & Udeme, 2014).

Teaching methods are procedures, sequences, steps, and methods used by educators to implement plans that have been prepared in the form of fundamental and practical activities to achieve learning objectives(Naga Subramani & Iyappan, 2018). The learning method is a knowledge of the teaching methods used by educators. Teachers use learning methods to create a learning atmosphere and learning process to achieve essential competencies or indicators that have been set. "The selection of learning methods is adjusted to the situation and conditions of the students as well as the characteristics of each hand and the competency to be achieved in each subject by referring to the learning activities specified in the syllabus.The situation and conditions during the pandemic COVID-19 that occurred in 2020, including in Indonesia and especially in South Kalimantan, impacted teaching and learning activities in schools. Therefore, physical and sports physical education teachers need to take quick and appropriate steps to complete the even semester learning program in the 2019/2020 school year. Learning is carried out at home using online (online network).

**2. Review of Related Studies**

Corbin informs us that PL is not a new term with references made in the early 1900s and again in the late 1950s(Corbin, 2016). Earlier definitions of PL referred to being able to read or write, but literacy means becoming educated in its broadest context (Jurbala, 2015). Physical education has been well known in the past as education through the physical (Bailey, 2006); hence, there are strong links between semantics literacy and education (Lounsbury & McKenzie, 2015; Lynch & Soukup, 2016). According to Kooimana et al., Concerns with remote learning in the field of PE include the passive nature of distance learning, the lack of social contact, confusing assignments, and an inability of teachers to monitor progress(Kooiman et al., 2017) visually.

Blended and online programs explicitly created to use one school district's students are the most significant and fastest-growing segment of blended and online learning(Oramas, 2017; Watson et al., 2013). One very typical application is Whatsapp. Through this application, the teacher is used as a learning medium to convey physical activity. Students send photos or videos of physical activity activities. Simulation is a replication or visualization of the behavior of a system, for example, an educational plan, which runs over a certain period (Corrigan, 2013). So it can be said that the simulation is a model that contains a set of variables that display the main characteristics of the actual living system. Simulation allows decisions that determine how the main features can be significantly modified(Law & Kelton, 1991; Maria, 1997).

The simulation model is one of the learning strategies that aim to provide a more concrete learning experience through the creation of imitation forms that approach the authentic atmosphere and take place in an atmosphere without risk, explain procedures that must be taken in the use of simulation methods are: a) Establish the simulation topic directed by the teacher, b) Establish the group and topics to be discussed, c) The simulation begins with instructions from the teacher about the procedures, techniques, and roles played, d) The process of observing the implementation of simulations can be done with the discussion, e) Holding conclusions and suggestions from the results of simulation activities(Boholano, 2017; Jan 2017).

The purpose of learning methods with simulation techniques, namely: 1. Assist students in applying skills for making decisions and in solving problems. 2. Helping students to develop the ability to interact with humans. 3. The teacher provides opportunities for students to apply various principles and theories. 4. Helping students to improve their cognitive, affective, and psychomotor abilities. This simulation learning model is significant and can be used in increasing student learning will. Simulation learning models can also be used: 1) All stages of learning. 2) Formal education and internships. 3) Provide analogical activities. 4) Allows practice and feedback with little risk. 5) Programmed as a self-learning tool(Chernikova et al., 2020).

This learning uses simulation methods with self-assessment techniques by students and project assessment (project assessment). Integrating evaluation of the constructs should provide a more accurate assessment of an individual's Physical Literacy ability. Therefore, as iterated in our earlier arguments, an appropriate physical skill evaluation is required to meet the objective of integrated monitoring in all parameters of Physical Literacy education (Giblin et al., 2014).

**3. Research Methods**

This survey research was conducted by the documentation method. After the survey, only one school was active in learning during the COVID-19 pandemic for physical education at the high school level. Based on the learning outcomes document, a descriptive analysis was carried out to illustrate aspects of the learning carried out and the competencies assessed during the learning period of COVID-19 that occurred in Banjarmasin, South Kalimantan Province.

**4. Results and Discussion**

Based on data analysis techniques, the results of physical education learning can be seen in table 1.

**Table 1.** Learning outcomes of physical education using the simulation method for COVID-19

	Assessed competency						Assessment Technique	Information
The competency was assessed	simple movements accompanied by music	Play using tools (interaction with hands)	Play using tools (interaction with legs)	push and pull motion	and	walking, running, jumping, and jumping		

Honesty	66%	88%	34%	92%	93%	Self-assessment	the photos / videos submitted to the teacher
Confidence	56%	90%	24%	95%	87%	Self-assessment	Conduct with awareness even if alone
Motivation	67%	91%	19%	33%	36%	Self-assessment	Do it with sincerity
Discipline	89%	93%	55%	76%	80%	Project assessment	Timeliness of submitting photos / videos
Type of movement	90%	66%	34%	82%	78%	Project assessment	Relevance of motion in PE
Duration	30–50 minute	15–20 minute	10–20 minute	25–35 minute	10–15 minute	Self-assessment	The duration of activity

Educators can use the importance of choosing various learning methods to create a learning atmosphere and learning process to reach essential competencies tailored to the characteristics of learners and critical competencies to be achieved. Attaining sufficient competence in basic movements provides individuals with the motivation and perceived ability to participate and progress in Physical Activity (Stodden et al., 2008). Applying appropriate learning methods is very important in learning physical sports and health education. With excellent and precise learning methods, well planned, adapted to the conditions and characteristics of students, active, creative, effective, and fun, physical education learning will be achieved.

The assessment was based on participation first, knowledge second, and skills third. According to the researchers' observations when observing photos and or videos submitted as project reports of motion activities, it was seen that almost all students submitted their assignments on time, even though some activities were late submitted. Motor skill assessments typically require individual administration, demonstration, and equipment, making them challenging to implement in practical settings (Bores-García et al., 2020; López-Pastor et al., 2013). For example, the Bruininks–Oseretsky test of motor proficiency, second edition (BOT-2) is an individually administered, norm-based measure of fine and gross motor skills used to assess skill development (Deitz et al., 2007). This is because students are confused about doing this type of movement, such as playing using tools (feet interacting with objects). The understanding of students is limited to only using a ball. Because of their lack of experience, their motivation is also low. Male students only show confidence. Some students lack confidence in their physical abilities and appreciate a class where intimidation and peer pressure are less ominous (Rhea, 2011; Richards & Levesque-Bristol, 2014). Many students are not drawn to the traditional model for Physical Education for a variety of reasons. Students who do not demonstrate an aptitude for Physical Activity tend to shy away from settings where success is contingent on being the best (Kooiman & Sheehan, 2013).

Different activities using hands show the highest level of motivation and self-confidence so that the highest accuracy of assigning tasks. Even so, the type of movement led is still much less relevant to the field of PE. Some of them are sweeping, mopping, washing dishes. This lack of relevance is because one measure in physical education for the psychomotor aspect has a stimulus to reach the level of physical activity by doing various training factors such as leading to strength or cardiovascular endurance, so the length of movement is one of the determinants.

The most preferred type of movement of physical activity is chill accompanied by music. The duration or duration of their actions is relatively high. A high level of motivation also follows this. Even though a low level of confidence can be seen from their facial expressions, they do it passionately, and the accompanying music varies. PE learning in high school age during the COVID-19 was carried out at home using the remote simulation method. Students always think PE learning is always carried out outside the classroom and even in the field to move and play. Physical education does not only emphasize movement skills. Physical education in learning emphasizes the aspect of movement skills, but it also contains cognitive elements. Cognitive elements are essential. During this time, the teacher may only think that mental aspects are only obtained by theory in the classroom. But actually, physical education in measuring the cognitive aspects of students does not have to go through existing approaches.

Weiner (1994) suggested that teachers may be susceptible to grading effort based on feelings rather than an objective, standardized measure (Weiner, 1994). Teachers can provide assignments to analyze the movements of their students. It was already represented in the cognitive aspect of being able to solve problems. On the other hand, mental elements are also called ability aspects of application or application. What is meant in this case is the ability to use concepts in concrete situations or particular situations. Therefore, the researcher chooses the simulation learning method because the characteristics of the method itself are pretending or acting as if, so students are given an explanation and carrying out the practice. The use of simulations represents the natural way of learning by doing (Stančić et al., 2007). The teacher determines and explains the material that students will use to carry out PE learning. However, it is not very exact with the contents of the Basic Competence in the curriculum. In COVID-19, everything must be ready to change. Teachers must also be wise that the most important thing is to instill attitudes to students to be aware that doing physical activities and exercise is necessary.

First, OLPE is different from traditional PE and cannot be compared directly with the gymnasium-based version. This notion may create apprehension and hesitation amongst teachers who are not sure how to make this delivery model relevant and meaningful for both teachers and students. Second, buy-in from teachers may be below as there may be a concern that OLPE could displace PE teachers with web proctors who have no personal connection to the student and no training in Kinesiology, instructional techniques, or the principles of movement and sport (Kooiman et al., 2017).

The simulation begins with instructions from the teacher about the procedures, techniques, and roles that will be played. Tiered instruction is the implementation of teaching and management strategies. The educator implements incremental changes that increase support based on student needs, whether those needs are academic or behavioral (Voorhees et al., 2013). The teacher gives instructions on what to do both with and without tools. The tools used are free, meaning they are not burdensome to students, but they can use what is around or the environment. All procedures carried out at the time of the simulation were contained in the theory put forward by Anita, W. DKK (2007: 5.23). During the learning process, there are several advantages of simulation methods, which are fun. Students ask for help from others when taking photos, whereas if in the video, they can directly record their activities using an android mobile phone.

## 5. Recommendations

Research-based efforts to solve problems in situations and conditions COVID-19 so that education continues to be carried out, especially in learning physical sports and health education (PE), still need further research. If the next semester program has a change in the situation and condition, PE is expected to continue to have physical fitness and high physical literacy.

## 6. Conclusion

PE learning activities in the pandemic covid-19 period for high school-aged people in Banjarmasin can still run smoothly. The learning method used is the remote simulation method (online). The assessment techniques used are self-assessment and project assessment, assessing the affective (social attitude), cognitive, and psychomotor aspects. Communication is an essential point for carrying out learning using remote simulation methods, especially assessment techniques because assessing social attitudes requires teacher guidance.

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