

## Game model through developmentally appropriate practice approach to improve life skills in elementary school

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### ABSTRACT

*The lack of life skills of elementary school students can be seen when students encounter difficulties in certain situations or problems both in everyday life and in the school environment, the lack of life skills of students affects learning activities and student achievement at school. Physical education sports and health can be a medium of life skills-based education. This research aims to determine the effectiveness of the game based learning model using the Developmentally Appropriate Practice approach in improving students' life skills in physical education, health, and sport learning at primary schools in the Janapria District. This type of research uses pre-experimental design research. The data analysis technique for the results of the assessment questionnaire has been created using the t-paired test to determine the effectiveness of the game based learning model using the Developmentally Appropriate Practice approach for students' life skills. Based on the results of statistical analysis through student life skills questionnaires, it shows that there is a significant difference in the average score of students' life skills before (pre-test) and after (post-test) using the game learning model with a sig (2-tailed) value of 0.000. so that from the research results obtained, the game based learning model using the Developmentally Appropriate Practice approach can be effective in improving students' life skills.*

**Keywords:** game based learning, developmentally appropriate practice, life skills

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## INTRODUCTION

Effective physical sport and health education learning requires efforts from all educational actors, including schools, teachers, students, the environment, and the right curriculum. One of the things that plays a crucial role is the teacher in learning, managing the class during learning, and assessing and reflecting on learning. One way of increasing learning success can be achieved by implementing good learning activities ([Darllis et al., 2020](#); [Nindiawati et al., 2021](#)). The physical sport and health education learning is carried out with appropriate and thorough planning, effective learning, assessment, and reflection, many impacts of physical sport and health education learning that students can feel ([Fauzi et al., 2025](#)).

The implementation of good physical sports and health learning not only has an impact on academic achievement but also several positive impacts felt by students such as for children's physical fitness in carrying out daily activities, increasing children's physical and psychological growth ([Fatoni et al., 2021](#)), developing sportsmanship ([Burgueño & Medina-](#)

[Casaubón, 2020](#)), honesty, discipline, responsibility, cooperation, confidence and democracy, and can develop children's life skills ([Jahrir et al., 2024](#); [Novianti et al., 2020](#); [Qomarrullah & Sokoy, 2024](#)). The life skills cover all life skills in general, which provide provisions for the continuity of a child's life in the future. Life skills, such as leadership, interpersonal communication, problem-solving and decision-making, and cooperation, help people thrive in a variety of settings, including their home, school, and the surrounding environment ([Bindu & Saravanakumar 2nd, 2023](#)). It is crucial to remember that in order to be genuinely regarded as life skills, they must be applicable to several facets of life, such as social interactions, household duties, and academic work ([Iram Tabish & Zahoor Ahmad Geelani, 2023](#)).

Elementary school students are the right target for developing life skills in the school environment. The school level is the right start to start life skills integrated education life skills-based education plays a very important role in developing the potential of elementary school students ([Asal et al., 2024](#); [Susandi, 2020](#)). The importance of life skills or life skills towards the readiness of students both in the academic and non-academic fields who have the ability and basic capital to live independently in their environment ([Utami & Habiby, 2024](#)). The lack of life skills development in grade IV students of Bile Penanggak State Elementary School, East Lombok can be seen from student behavior in everyday life or in the school environment, such as when encountering situations or problems, developing self-potential, adapting to new environments, and so on. The lack of students' life skills also affects students' learning activities and achievements ([Dani et al., 2021](#)). The importance of life skills-based education aims to provide children with daily life skills, so that one day children can live independently ([Gufron et al., 2020](#)). Education is the right place to develop life skills. It is in line with ([Sulaiman & Ismail, 2020](#)), which stated that sport is an appropriate means to develop life skills ([Opstoel et al., 2020](#); [Ronkainen et al., 2021](#)).

Several other studies also state that the role of sport as a means of developing life skills has a significant impact ([Gareth et al., 2021](#); [Holt et al., 2020](#)). Life skills, however, require special programming. Like physical talents, life skills programs are implemented in stages, including modeling, practice, and demonstration ([Defitrika & Mahmudah, 2021](#); [Saravanakumar, 2020](#)). According to the majority of life skills scholars, life skills should be purposefully taught and upheld within the athletic experience ([Camiré, 2023](#); [Theoneill Fielies, 2022](#)). Physical education is a setting that can help children develop their life skills, according to a number of studies ([Lenzen et al., 2023](#)). Furthermore, ([Opstoel et al., 2020](#)) shown how athletics help pupils acquire a variety of life skills.

Life skills education to be incorporated into the curriculum and instruction in schools, physical education and health education are essential ([Rahman et al., 2019](#)). Physical education learning can work in tandem with the generic and specific life skills elements to accomplish the aims. It serves as an example of how physical education and health education in schools may be used to teach life skills. One of them is that the TGFU learning method can also improve teamwork ([Papagiannopoulos et al., 2023](#); [Syarif & Winarni, 2015](#)), students' thinking abilities, decision-making abilities, and transfer in a game which is part of the life skills aspect ([Fathi & Naseri, 2025](#)). Learning with the outbound circuit game approach has also been proven to increase the emotional and spiritual maturity of students in physical education sports and health ([Pratama & Hudah, 2020](#)).

([Ardi & Purwanto, 2021b](#)) has developed a model of game learning through Developmentally Appropriate Practice (DAP). In the Developmentally Appropriate Practice (DAP) approach, education should be tailored to the child's developmental stage and how the child learns. the concept of Developmentally Appropriate Practice (DAP), or in Indonesian, it means "education that is appropriate to the children's developmental stages" ([Megawangi et al., 2005](#); [Qasmi et al., 2022](#); [Roshonah et al., 2023](#)).

Based on this concept, teachers must understand that each child is unique and has different talents, interests, strengths, weaknesses, and experiences. Therefore, educators should be able to adapt to this uniqueness. This DAP concept or approach has become a reference in early childhood education programs, and subsequent development has been adapted into basic education programs. A key component of DAP is the importance of young children learning through a child-centered, play-based approach ([Cade, 2023](#); [Montoya-Fernández et al., 2024](#)).

This research aims to determine the effectiveness of the game learning model through the Developmentally Appropriate Practice (DAP) approach in improving students' life skills in physical sports and health education learning in primary schools in Janapria District. The life skills aspects observed include teamwork, goal setting, time management, leadership, social skills, emotional skills, interpersonal communication, and problem-solving and decision-making.

## METHODS

This type of research uses Pre-Experimental with one group pretest-posttest Design. This research was conducted at Bile Penanggak Elementary School, Central Lombok where observations were made about PE learning activities at school. The research sample was class IV students of Bile Penanggak Elementary School, Central Lombok, namely 28 students consisting of 13 male students and 15 female students. Sample selection through purposive sampling method, which is the selection of samples based on certain criteria, such as the basic ability of students in developing life skills, learning materials that support research, and the state of school facilities in supporting learning.

The Life Skills Scale For Sport (LSSS) questionnaire, created by [\(Cronin & Allen, 2016\)](#), was utilized as the research tool. There are eight primary life skills components in the LSSS questionnaire, which consists of 47 closed-ended questions. Five points, ranging from 1 (not at all) to 5 (very much), make up the value scale range that is employed. The data analysis technique in this study is the processing of pretest and posttest results of students processed using descriptive statistics, namely paired t-test to determine the effectiveness of the game based learning model using the DAP approach for students' life skills. The assessment is reviewed from the student's life skills score before the trial (pre-test) and the student's life skills score after the student's trial (post-test).

**Table 1.** Effectiveness test Design

Class	Pre-test	Treatment	Post-test	Increase
R1	X1	P1	X2	X2-X1

Information:

R1 : Experimental class

X1 : Pre-test

P2 : Learning using game based learning models

X2 : Post-test

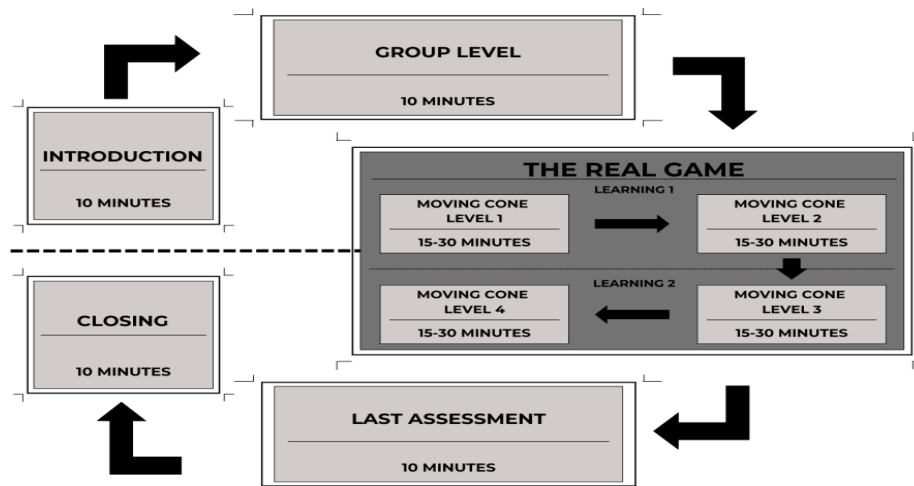
O1&O2 : Increase in pre-test and post-test scores

## RESULTS AND DISCUSSION

### Results

The game learning model through Developmentally Appropriate Practice (DAP) developed by [\(Ardi & Purwanto, 2021b\)](#) includes several steps: (1) introduction, (2) group division, (3) core game, (4) final assessment, and (5) conclusion. Some of the core games in this game learning model are the level 1 cone-moving game, level 2 cone-moving game, level 3 cone-moving game, and level 4 cone-moving game. The steps of the game learning model are in

Figure 1.



**Figure 1.** Game Learning Model Steps

Before the trial, students do a pretest first to see life skills, then continue with learning following the steps of the game learning model that was developed. Of the 28 students, they are divided into four groups that will play different games. The selection of these groups is based on the assessment. The initial stage is an assessment of students' basic motor movements. At the end of the lesson, the students took another post-test to find out what the students' life skills were like after learning physical sports and health education using the game learning model.

The life skills questionnaire consists of 47 statements. Questionnaires were distributed before starting learning (pretest) and after learning (posttest). The normality test results of the student learning motivation questionnaire can be seen in Table 2.

**Table 2.** Normality Test Results for Life Skills Data

Life Skills	Statistic	df	Sig.	Result
Pretest	0.902	18	0.063	Normal
Posttest	0.978	18	0.931	Normal

The results of the normality test indicate that the data are regularly distributed, with each data point having a significant value  $> 0.05$ . This suggests that the t-paired test can be performed using the collected data. However, Table 3 displays the homogeneity test findings.

**Table 3.** Results of Homogeneity Test for Life Skills of Students

Life Skills	.sig	Result
Pretest-Posttest	0.718	Homogen

When each data point's significant value is  $> 0.05$ , the homogeneity test findings demonstrate that the data are homogeneous. This suggests that the t-paired test can be performed using the collected data.

**Table 4.** Life Skills paired t-test results

Life Skills	T	df	Sig. (2-tailed)	Result
Pretest- Posttest	-17,178	17	0.000	Effective

Table 4 displays the findings of the students' t-paired living skills exam analysis. states that the following criteria should be used when making decisions in the paired sample t-test based on the significance value (sig.) of the SPSS output results:  $H_0$  is rejected while  $H_a$  is accepted if the sig. (2-tailed) is  $< 0.05$  or  $H_0$  is approved while  $H_a$  is rejected if the sig. (2-tailed)  $> 0.05$ .

Table 4 indicates that the two-tailed sig value is 0.000. where  $H_a$  is approved and  $H_0$  is denied when the value of 0.000 is  $< 0.05$ . Therefore, it can be said that there is an average difference between the students' life skills scores before and after using the game learning model. This suggests that the game learning model has an impact on students' life skills development.

### **Discussion**

This study aims to determine the effectiveness of the game learning model in improving students' life skills. The results of this study prove that the game learning model developed ([Ardi & Purwanto, 2021](#)) is effective in improving students' life skills, this is because the game learning model through DAP is designed according to student needs and one aspect of student needs referred to in the game learning model is life skills. The application of life skills is specifically and programmed in learning. ([Hayani et al., 2023](#)) The application of life skills in learning must be specifically programmed so that it can be effective in learning. According to the majority of life skills scholars, life skills need to be purposefully taught and upheld during athletic activities ([Kramers et al., 2020](#)). In implementing life skills it needs to be programmed specifically, the application of the program in life skills is the same as physical skills, which is done with several stages, demonstration, modeling, and practice ([Jacobs & Wright, 2021](#); [Newman, 2020](#)).

Several previous studies also suggested that games in physical sports and health education learning can integrate life skills. According to ([Wijayanti, 2024](#)), games can stimulate children to develop cooperation, adapt, and interact with each other positively, condition to control themselves, develop an empathetic attitude toward friends, obey the rules, and respect other people. Additionally, this game can interact between friends, which of course, will increase cooperation with friends found that students' life skills improved more when they participated in physical activity that was combined with a life skills program than when they

did not. Subsequent research showed that the life skills component with the most increase was social skills. It demonstrates that physical activity combined with a life skills program yields superior outcomes to physical activity alone ([Budiman & Ruslan Rusmana, 2021](#)).

Based on the results of quantitative data analysis and supported by the results of previous research, the game learning model that has been developed can improve students' life skills. Integrating all aspects of life skills into game steps in the game learning model has a positive impact on improving students' life skills. Game learning is considered an optimal environment for developing life skills because it is one of the learning styles that students like. It is essential that game learning can be used as a forum for developing life skills so that the life skills obtained through game learning can be applied in the learning context and in everyday life ([Dea et al., 2021](#)). Based on this research, researchers also recommend research with other methods such as quasi experiments or true experiments to really find out how the implementation of this game learning model can improve students' life skills which can be analyzed through each aspect of life skills.

## CONCLUSION

Based on the research results obtained, the game learning model through the Developmentally Appropriate Practice (DAP) approach is effective in improving students' life skills. Students can develop life skills such as teamwork, goal setting, time management, emotional skills, interpersonal communication, social skills, leadership, problem solving and decision making through game learning models that will have an impact on students' long-term lives. This research was conducted on upper grade elementary school students so that further research can be conducted on lower grade elementary school students, which is grade 1, grade 2 or grade 3 elementary school.

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