Self-Regulated Learning
Concepts and Application in Physical Education

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Abstract: This paper reviews the philosophical aim of physical education learning which is to develop personality as a whole, covering the physical, mental, emotional, social, and spiritual aspects through the participation of guided, chosen, and systematic physical activity in accordance with social norms and health. The use of self-regulated learning approach in physical education learning is considered very important, especially since self-regulated learning is the foundation of lifelong learning process that teaches students to control their thought, attitude, and action in a planned and cyclical way to achieve learning objective.

1 INTRODUCTION

The purpose of physical education is to develop the personality as a whole, covering the physical, mental, emotional, social, and spiritual aspects through the participation of guided, chosen, and systematic physical activity in accordance with social norms and health. Barrow (1983) calls it *Physically-Educated Person.* Implementation of learning model that can teach learners to be more independent, responsible, and motivated to achieve the goal is something that is very important because so far the learning model is still relatively technical. Learning method is still attached to the color of behaviorist; learners are often treated like a passive object whose life process depends on the elements outside him. Development of teaching materials used in textbooks that have been so far more concentrated on the development of psychomotor aspects, while the cognitive and affective aspects are still neglected.

In addition, the interaction in the teaching and learning process is often monolog, teachers still more play a role as a student's behavioral engineering, the process of learning is more teacher-centered, more learners are required to adjust all activities with the existing learning environment, learners more carrying out physical activity in accordance with the instructions of the teacher, the students are still not given the opportunity to develop self-reliance, responsibility, and self-motivation. Thus learners become passive; their behavior activity is more directed by teachers in a limited environment. This condition is exacerbated by the limited facilities and infrastructure available. In this regard, the learning model developed by applying the principles of self-regulation learning is very important, especially since guiding learners to learn more independently, responsibly, and motivated to achieve the learning objectives it has set, can also encourage participant students and teachers to be more creative and innovative in modifying the necessary tools in accordance with the availability in the environment.

2 BASIC CONCEPTS OF SELF-REGULATED LEARNING APPROACH

Self-regulated learning (SRL) or self-management in learning is learning or training strategy developed from the social cognition triadic theory from Bandura (Zimmerman and Martinez-Pons, 1990). According to social cognition triadic theory, human beings are the result of an interdependent causal structure of aspects that include behavior, personality, and environment (Bandura, 1997). The wave of SRL develops with emphasis on learning or learning process and not on teaching. Winne (1997) explains that the topics studied in SRL include cognitive strategies, learning the way of learning,

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and lifelong learning. The term SRL became popular since the 1980s with an emphasis on the importance of autonomy and personal responsibility for learning activities.

According to Caprara et al. (2008) there are three aspects of influential determinant in SRL, namely aspects of self, behavior, and environment. So, SRL not only involves aspects of the self but also aspects of behavior and environment. The involvement of these three processes is causally causal to other processes in which (a) the individual seeks to self-regulate, (b) the result of performance or behavior, and (c) impacts on environmental change, and so on (Caprara et al., 2008). In the process each aspect of determinant influences each other.

Based on several definitions above, it can be concluded that SRL is learning or training activity that involve aspects of meta-cognition, motivation and behavior. The involvement of the metacognition aspect occurs in the form of goal planning and learning activities strategy, monitoring of learning activities and evaluation of learning activities that have been implemented.

3 STRUCTURE MODEL OF SRL FACTOR

As already mentioned SRL is a self-regulation strategy in learning that is based on the triadic assumption of reciprocity. This assumption states that SRL is influenced by the interaction between individual factors, behavior, and environment. Each factor becomes causality for other factors, therefore called triadic reciprocality theory (Zimmerman, 1990; Rotenberg and Kuipers, 2014; Schunk and Ertmer, 1999).

SRL is a learning or training activity that involves aspects of metacognition, motivation and behavior (Zimmerman, 1990; Purdie et al., 1996; Zimmerman and Martinez-Pons, 2002; Schiefele and Pekrun, 1993; McCombs and Morzano, 1997). The involvement of metacognition aspect occurs in the form of planning of objectives and strategies of learning activities, monitoring of learning activities and evaluation of learning activities that have been implemented. Involvement of motivation aspect is in the form of behavior mobilization to achieve learning activity goal, while behavioral aspect in SRL embodies the behavior to always achieve learning activity objectives. Athletes or students who involve aspects of metacognition, motivation and behavior in carrying out their learning activities will tend to be more autonomous and more responsible as they realize that only on their own efforts can the learning or training goals be achieved.

As a learning strategy, SRL is an action plan that describes what happens in the learning process. Action plans are structured and directed towards the goal orientation of learning as a mental frame of mind that guides and determines the thinking process or ways students or athletes interpret and respond to the achievement situation manifested in performance or skill mastery (Brett and VandeWalle, 1999; Barron and Harackiewicz, 2001). In accordance with the results of research Eugster et al. (2004) and the results of Hidayat et al. (2009), there are three theoretical components that describe the process of self-regulation in sports and education, namely learning strategy, management strategy, and knowledge of learning.

Phasing of Learning Approach Model of Physical Education Based on Self-Regulated Learning Approach. Based on the results of his research, Hidayat et al. (2009) has developed the structure or phasing of physical education learning based on the Self-Regulated Learning approach. The model structure is presented as follows table 1:

Table 1: Phasing of Learning Model of Physical Education and Sample Unit of Analysis Based on SRL Approach.

Learning Stages	Types of Activity	Indicator of Student Self-Regulation	Types of Self-Regulation Model
Introduction Phase	Delivering information	Listening to instruction	**Using verbal information** *I listen to the teacher's explanation of the subject matter and learning objectives*
		Thinking and finding understanding	**Using verbal information** *I think of the teacher's instructions to find understanding* *I did an analysis on how to dribble and throw a ball*
	Focusing students' attention to material	Managing attention	**Making associations with nonverbal information** *I am trying to pay more attention to teacher's explanation of the material to be learned*
	Explaining learning goal	Setting goals (feel involved in setting learning goals)	**Using verbal information** *I formulate my learning goals in accordance with the goals set by the teacher.*
Main Phase	Presentation of material (explanation, demonstration or modeling)	Viewing and imitating	**Make associations with nonverbal information** *I saw the demonstration by the teacher*
		Imagining	**Making associations with nonverbal information** *I saw myself kicking the ball*
		Focusing attention	**Doing exercise and repeat** *I was thinking only to the ball*

			I'm focusing my attention on the movement of the ball
	Doing learning activity	Viewing and imitating	**Making associations with nonverbal information** *I see other students doing the moves*
		Imagining	**Making associations with nonverbal information** *Before doing it I saw myself was dribbling* *I imagine the dribbling movement done by my friend*
		focusing attention	**Exercising and repeating** *I am focusing my attention on the dribbling motion made by my friend*
		Repeating and practicing	**Making associations with nonverbal information** *I repeated several dribbling moves*
		Looking for help	**Using verbal information** *I asked the teacher and to help me make the movement while waiting for my turn*
		Managing tasks and adjust difficulty levels	**Using verbal information** *I chose dribbling with my right hand because it was easier*
		Managing time	**Using verbal information** *I try to be more calm when doing dribbling motion*
		Reducing close friend interaction	**Using verbal information** *I reduce jokes with other students in order to succeed*
		Managing motivation	**Using verbal information** *I talked to myself that I had to succeed in dribbling*
		Doing self-evaluation	**Using verbal information** *I tried to figure out what I had managed to do the dribbling motion with the correct movement*
	Doing individual and classical corrections	Focusing attention	**Making associations with nonverbal information** *I try to pay more attention to the corrections given by the teacher*
		Doing self-evaluation	**Making associations with nonverbal information** *I tried to figure out what I had managed to do the dribbling motion with the correct movement*
Closing phase	Formulate conclusions and submit material for the next meeting	Listening to instruction / explanation	**Using verbal information** *I asked the teacher about the part of the dribbling movement I had not mastered*
		Focusing attention	**Making associations with nonverbal information** *I try to pay more attention to the conclusions given by the teacher*
	Classical evaluation	Focusing attention	**Making associations with nonverbal information** *I will answer if the teacher asks me*
	Cooling down and relaxation	Managing motivation	**Using verbal information** *I talk to myself to be more calm in order to do the movement more correctly*
		Giving achievement	Managing motivation	**Using verbal information** *I talked to myself that I should be more successful in doing the dribbling motion properly in order to get an award*

Furthermore, after conducting experiments on 120 students of grade IV and V of Sekolah Dasar Negeri Cisitu I and II, found that (1) the approach of SRL and Conventional models significantly influenced the improvement of analytical skills, sport motivation, and student motion skills, (2) the approach model of SRL gives a higher and significant influence on the increase of analytical skills, sports motivation, and student motion skills compared with conventional approach model, (3) student motion analysis and skills of male students who were taught using the SRL approach model were higher and more significant than female students, while in students taught using conventional approaches there was no difference in analytical skills and male students had higher and more significant movement skills than female students (4) there is no significant difference in sport motivation between male students and female students either who were taught by using the approach model of SRL or conventional. The results of this third year study reinforce the evidence that the model of the learning approach of SRL can be an alternative model of learning approach for use by physical education teachers.

4 CONCLUSIONS

Self-regulated learning (SRL) or self-management in learning is a learning or training strategy developed from the social cognition triadic theory from Bandura. There are three important aspects that influence in SRL, namely aspects of individual, behavior, and environment. The involvement of these three aspects is causally causal to other processes in which the individual seeks to self-regulate, the outcome of performance or behavior, and an impact on environmental change, and so on. The approach model of SRL can be one of the alternative models that can be used by physical education teachers in implementing the learning process. Its application should take into account three important components in SRL, namely learning strategies, management strategies, and knowledge of learning. The three components of the strategy are elaborated into 18 sub-components, setting goals, listening to thinking instructions and finding understanding, viewing and imitating,

imagining, focusing attention, repeating and training, managing attention, seeking help, managing tasks and adjusting levels, difficulty managing time, reducing peer interactions, managing motivation, self-evaluation, self-knowledge, knowledge of strategy, knowledge of the situation, and knowledge of others.

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