

# *Case Study: Exploration of Medical Student Self-Directed Learning (SDL) Process*

*Francisca A Tjakradidjaja\**

\*Faculty of Medicine and Health Sciences,  
Syarif Hidayatullah State Islamic University  
Jakarta, Indonesia  
[francisca.tjakradidjaja@uinjkt.ac.id](mailto:francisca.tjakradidjaja@uinjkt.ac.id)

*Yayi Suryo Prabandari\*\**

*Titi Savitri Prihatiningsih\*\**  
*Harsono\*\**

\*\*Faculty of Medicine, Gadjah Mada University  
Yogyakarta, Indonesia

**Abstract**—Self-directed learning (SDL) emphasized the students to be responsible in their learning process. SDL capabilities need to be owned by physicians, so physicians will be able to face the continuous scientific changes and they can develop the lifelong learning capabilities. This study aimed to explore the process of SDL on medical students. This study was an exploratory qualitative research. Informants were selected based on the maximum variation. The number of informants are 23 students. Data was analyzed using thematic analysis approach. Twelve informants were male and 11 were female. The average of age was 21 years old. Eighteen informants live in the rental house, 13 informants come from high school, the rest come from the madrasah aliyah, 12 informants did not come from islamic boarding school. There were 12 informants from preclinical stage and 11 informants from clinical stage. The area of informant origin from Jakarta were eight, West Java were three, Central Java were three, East Java were four, Gorontalo was one, South Sumatra were two, Banten was two. The themes that emerged in the SDL process involves ten stages, namely: (1) learning target; (2) learning organization; (3) learning strategies; (4) learning resources; (5) consistency; (6) time management; (7) self-control; (8) performance insight; (9) review; and (10) strategic planning. SDL process was described as a spiral which shows that the process was a continuous ongoing process. The size of the spiral increasingly large that describing the quality of SDL processes were improving in line with level of education. The students of PSPD FKIK UIN SH Jakarta seen not optimal undergo the whole process, especially in consistency, time management, performance insight, and the review. Medical student should to improve their skills on SDL by practicing the ten step of SDL process.

**Keywords**— *self-directed leaning; medical education*

## I. INTRODUCTION

Development in medical science has been very rapid. The development occurred in the basic science, prevention, diagnosis and therapy. In line with this, the health problems that arise also constantly evolving. A physician has an obligation to be able to compensate for it, so it takes a

physician who responsive in responding to unexpected changes. Therefore, physicians need to have the ability to learn throughout their life in order to provide optimal health services in order to maintain patient safety.

The lifelong learning ability is one of the competencies that must be owned by a physician [1]. An important requirement for lifelong learning ability is the ability to direct their learning independently (self-directed learning/SDL). The simple meaning of SDL is learner as the controller and the responsible one. SDL ability is very important so that the physician can survive to face of medical science changes and the ability SDL can support also generating ability of lifelong learning [2].

Several studies in Indonesia showed that the prevalence of medical students who were ready to SDL ranged between 50-60% [3-13]. SDL readiness of the first semester medical student [14], the medical student in clinical stage [15] and the graduates [16] from Medical Education Program, Faculty of Medicine and Health Sciences, State Islamic University Jakarta (PSPD FKIK UIN SH Jakarta) found in the medium category.

SDL process models that exist still can allow for an expansion of thought, so that we will get a greater understanding of the SDL process. There is a need in terms of a new perspective on the SDL process, particularly in the medical education. The research methodology of the SDL process mostly cross-sectional study and study longitudinal with quantitative approach. The qualitative research regarding the exploration process on the SDL medical students has not been done.

Based on the phenomenon of the background, this study set out in order to understand the student SDL process, especially in the context of medical education. This research seeks to explore in depth the SDL process of medical students. The purpose of this study was to formulate a model of the SDL process on medical students.

## II. METHODS

### A. Study design

This research was a qualitative case study approach. Selection of case study research approach was based on the consideration that the data to be searched can describe the SDL process to students at PSPD FKIK UIN SH Jakarta. A qualitative approach was warranted when the nature of research questions requires. This approach aims to gain in-depth understanding and interpretation that describes the context or setting to the case that bound by time and place. In addition, this approach is based on clear definitions as to the location of the study, namely in PSPD FKIK UIN SH Jakarta.

### B. Informans

The study involved 23 students as informant drawn from each stage of education which were active in the learning activities. Sampling with a maximum variation of non-boarding schools, male-female, and senior high school-madrasah aliyah.

### C. Data collection

Data were collected through semi-structured interviews, observation, and note of daily activities. The interviews were audio recorded to ensure accurate transcription. Open-ended questions were used throughout the interviews to encourage participants to respond freely and openly.

### D. Data Analysis

Information obtained in the field was transcribed verbatim. Qualitative data analysis was done from before, during and after data collection, including: (1) data reduction, the sorting and simplification of data, (2) presentation of data, an activity stringing, composing information into a simple form, easy to understand, (3) conclusion, an activity to test the truth found in the field with the verification. Data analysis was performed based on the content analysis method to find a theme that appears along with two colleagues as peer coder. The data analysis was conducted with the assistance of Atlas Ti software. Presentation of data was carried out systematically by developing the results obtained in the field, verbatim quotations to strengthen the interpretation illustration researchers, and theoretical formulation.

### E. Research ethics

This research has received certificate of ethical clearance from Faculty of Medicine UGM Research Commission and FKIK UIN SH. Research Ethics Committee. Informed consent was submitted to informants and confidentiality of data sources was maintained. Informants were at any time entitled to terminate their participation without any sanction.

## III. RESULTS AND DISCUSSION

The number of informants were 23 students. In the beginning, there were 24 informants, but one of the informant

did not collect the diary data and did not come at the interview because of illness. Twelve informants were male and 11 were female. The average of age was 21 years old. Eighteen informants live in the rental house, 13 informants come from high school, the rest come from the madrasah aliyah, 12 informants did not come from Islamic boarding school. Total origin consecutive student selection of ministry of religion scholarship, joint selection of college entrance, private exam, and national selection of college entrance respectively were eleven, four, three, and five informants. Informants were taken from the first to the sixth year. There were 12 informants from preclinical stage and 11 informants from clinical stage. The area of informant origin from Jakarta were eight, West Java were three, Central Java were three, East Java were four, Gorontalo was one, South Sumatra were two, Banten was two. The theme that emerged in the SDL process involves ten stages, as follow:

#### (1) Learning target

The definition of learning targets are targets to be achieved. The target of learning in SDL is determined by the learners themselves. *"Sometimes I make a target, there is one target today. I have to understand something. For example I will make presentation material."* (WMH.08.1). That quote shows that students have set their learning targets as needed. The target may refer to the educational standards that set by the institution and may include a target capability of learning objectives. Targets should be clear, specific, measurable, and realistic. Learning targets created by students have not been formulated properly, as shown in the following quote. *"Usually one hour, a maximum of two hours is also good. Just go ahead. As long as I'm not sleepy, I still want to find out, then I will continue to search the learning materials. There is no specific plan."* (WMH.10.1).

#### (2) Learning organization

Learning organizational is the setting of the learning process that directed by the learning target. Learning organizations include setting up material that needs to be mastered, setting the sequence of topics, and timing. Schedule is organized based on realistic and flexible learning targets. *"Well, I need to know the most frequently asked questions in the skin stages. Knowledge that we must know. At least the night before we have read. For example, the first day of the stages, the night before I have read the outline of dermatitis. In the first week, I should have known about dermatitis."* (WMH.09.3).

#### (3) Learning strategies

Learning strategies is the approach to learning methods will be used. Learning strategy is individual. Determining effective learning strategies is necessary. In the SDL process, deep learning approaches should be used to achieve learning targets. *"Not only know the*

definition. I understand how to operate. the next day I know how to follow up. Understand things that should be monitored until discharge.” (WMH.09.1). Students with good strategic skills can choose strategies according to task demands, monitor the use of strategies, and believe that the strategies will help them learn. Conversely, students with poor strategic skills often do not understand the reason and time to use different strategies. They are unaware of their lack of understanding.

(4) Learning resources

Learning resources are all sources that can be used by students in learning to facilitate students in achieving learning objectives. Learning resources can be textbooks, journal articles, and asking directly to teacher. *“Already determine the material from which want to read. Eg material A take in book B, or googling, or see lecturer notes.”* (WMH.10.2). In SDL, students do not mean that they do not need other people in the learning process. Students must be able to know the times needed help [17].

(5) Consistency

Consistency is remain in obedience or compliance. Implementation of student learning planning was sometimes inappropriate, as illustrated in the following quote: *“Often it does not fit the plan may be due to the activities of the organization, or sometimes complacent to play.”* (WMH.11.4). The responsibility will be the self-commitment to be able to realize the target and organizational learning. Setting priorities in choosing activities that coincide with the current study, illustrates the ability to apply learning plan.

(6) Time management

Time management is setting the time to learn effectively to achieve learning objectives. Proper time management makes the SDL process effective, efficient and productive. There are still students who have not been able to manage their time properly. Conversely, some can take the best time possible to learn as shown in the following quote: *“If I go, I bring a pocket book. While I was undergoing child clerkships, I had a need to buy shoes, then during the trip in Trans Jakarta I read a book. So when I queue the bus, I read the book.”* (WMH.09.4).

(7) Self-control

Self-control is the ability of students to regulate their own behavior and control the external factors that exist. Students often have not been able to control themselves, to resist temptations beyond learning activities. *“Not all plans are in place. Most did not happen because friends like to invite me to play. I am often tempted. The study plan should be two hours, so it is only half an hour.”*(WMH.11.2). Individuals with high self-

regulatory systems have positive control over their environment and learning outcomes.

(8) Performance insight

Performance insight is an understanding of oneself with regard to introspection about the internal conditions and capacities associated with the implementation of the learning process. Student performance insight has not been done routinely. Students tend to go through only, not regularly review the performance. This review refers to the learning target. Performance insight was mostly done when the target achievement is not appropriate. *“Well I am through it. If there is a schedule that misses, I will catch quickly.”* (WMH.12.4). The process involves the metacognitive aspect, which will monitor and control thoughts, feelings and behavior. Critical thinking and metacognitive strategies are needed in this process. Students need to use their knowledge to think, synthesize, and analyzed performance that has been done rationally and objectively.

(9) Review

Review is a process of thinking the learning implementation. This review process is not routinely performed by students, as indicated by the following quote: *“Never routine. Usually at the end of the module, when the value is announced, awakens for evaluation. Upcoming modules should be better. But the reality is just a moment's consciousness. In the next module the same event recurs again.”* (WMH.12.3). This review process is supported by the ability of reflection. The process of reflection is a process that involves creative thinking and it is necessary to recognize the emotional aspects involved during the process [18].

(10) Strategic planning.

Strategic planning is re-planning with better things to improve the previous plan. The following quote indicates that the student expressed a desire for improvement for the next learning process. *“I really have intentions that I should get better mark. I will try in the upcoming module.”* (WMH.09.3). The use of the term “strategic” here indicates the existence of programs that are presented to achieve learning objectives. This is adjusted to the conditions or based on the experience that has been exceeded.

The students of PSPD FKIK UIN SH Jakarta were seen not optimal undergo the whole process, especially in consistency, time management, performance insight, and the review process.

The balance between freedom and responsibility is the condition prevailing in the SDL process. Freedom is reflected in stages one to four, namely: determining learning targets, learning organizations, learning strategies, and learning resources. Responsibility is required in the five to nine stages, namely: consistency, time management, self-control,

performance insight, and review. Stage ten involves freedom and responsibility, because in strategic planning, the planning that opens up the opportunity for student freedom and planning is a form of responsibility from the previous process that has been done.

SDL process was described as a spiral (Figure 1.) which shows that the process was a continuous ongoing process. The size of the spiral increasingly large that describing the quality of SDL processes were improving in line with level of education. This process will continue, not only in the educational process, but ongoing throughout the profession as a doctor. Spirals that continue to spin indicate a lifelong learning process.

The ten stages of this SDL process are similar to the SDL process proposed by Knowles (1975) [19], namely: initiative, planning, implementing, monitoring, and evaluating. The ten SDL processes of this study are a technical translation of the process proposed by Knowles (1975). The initiative process in this research is similar to the learning intention as the initial basis of the SDL process. Target learning, learning organizations, learning strategies, and learning resources are the elaboration of the planning process. Consistency, time management, and self-control are the elaboration of the implementation process. Performance insight and review are elaboration of the monitoring and evaluating process. Strategic planning is part of the re-planning, so the SDL process is sustainable. This technical description is expected to facilitate the application of SDL in the learning process. Students can more clearly go through the stages of the SDL process and also the teaching staff will be easier to direct the students.

#### IV. CONCLUSION

The findings of this study point several recommendations for addressing and improving SDL process. Institution needs to develop learning programs and assessment that support the SDL process by involving students. It is necessary to conduct the further research to examine the themes that emerged and develop students SDL process assessment instruments.

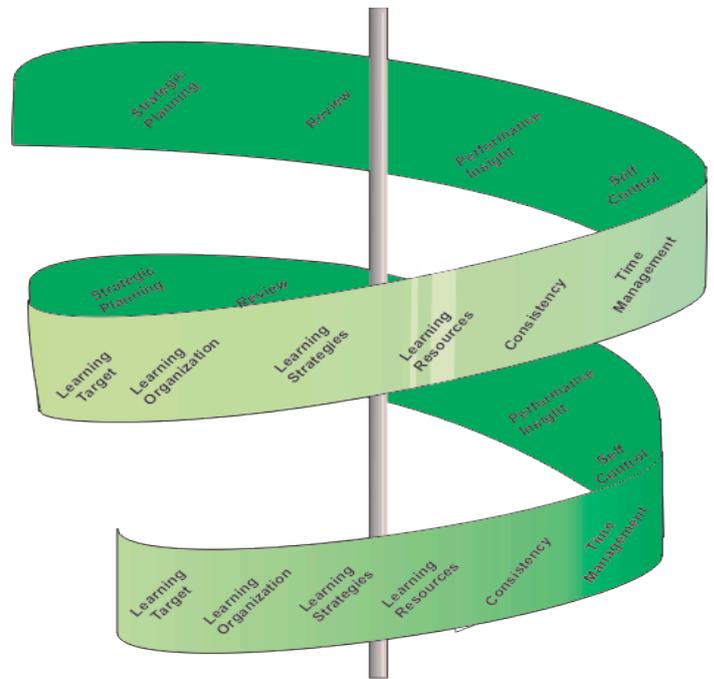


Fig 1. Spiral of SDL process.

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