Improving the Quality of Learning through the Self-Directed Learning Model

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An important factor in determining the quality of learning is the teacher, namely the teacher's skills in using teaching strategies or models. This research aims to analyse the improvement of the quality of learning in the application of the self-directed learning model in the lecture material of learning assessment. This study uses a descriptive statistical approach, and the classroom action research model of Kemmis and Taggart (1988). The subjects of this study were students who took the learning assessment course in the Economic Education Study Program at a public university in Riau, Indonesia, and the data were collected through tests and observations. The data were analysed with descriptive statistics, and then the results of the analysis were compared with indicators of performance achievement. The results showed that there was an increase in the quality of learning observed in the activities of lecturers and students in cycles I and II. From the results of this study, it can be concluded that the use of self-directed learning models can improve the quality of learning, both from the perspective of the lecturer and from that of students. It is recommended to lecturers and teachers to improve the quality of learning through the model of self-directed learning by adjusting the learning objectives.

Key words: *Learning quality, instructional model, self-directed learning.*

Introduction

The 21st-century life requires a variety of skills that must be mastered, so education is expected to train students to master various skills in order to become successful people in life. Many important skills need to be learned by students, such as critical thinking skills and problem-solving, collaborative skills, creative skills, and communication skills. A student must also practice the main values of character including independence, hard work, creativity, discipline, courage, and learners (Kennedy, 2016). The learning process requires the efforts of a teacher

to organise the components of learning so that students can learn well and achieve learning goals. This includes applying organising strategies, delivery strategies, and management strategies to the environment in which students' subject-based learning occurs in order to increase learning output.

The World Innovation Summit for Education (WISE), which conducts surveys related to the projected appearance of a school, estimates that the education system will undergo major changes by 2030. Interactive environments will be introduced in schools because innovation in technology and curriculum will fundamentally change the role of teachers and reshape overall learning (Puspitarini, 2014). The survey also revealed that innovation is an integral part of the future of education, with 93 percent of education experts saying that they support schools that implement innovative methods based on new teaching approaches and creative processes. Widoyoko (2012) concluded that student learning outputs in schools were 70% influenced by students' abilities and 30% influenced by the environment. One of the most dominant learning environments affecting learning output in schools is the quality of teacher learning. Indicators of the quality of learning include, among others, the learning behaviour of the teacher, the behaviour and impact of student learning, the learning climate, learning materials, learning media, and learning systems. Teacher learning behaviour can be assessed by a teacher's performance in the following areas, among others: (1) building positive attitudes of students towards learning and profession; (2) mastering scientific disciplines; (3) teachers need to understand the uniqueness of students; (4) mastering the management of educational learning; and (5) developing personality and professionalism (Depdiknas, 2004).

An important problem that is often encountered by educators in learning activities is choosing or determining the right learning model to help students achieve their competencies. This is due to the fact that in higher education, the ability of lecturers to choose innovative learning models is limited. One way to improve the quality of learning is through the development of innovative learning models. The learning model should be designed and developed innovatively, and its design should student-centred. That is, the learning process will provide more opportunities to construct knowledge independently (self-directed), will be mediated by peers (peer-mediated instruction), and will be of a constructive paradigm that is based on Innovative learning.

One model that can be used to improve the quality of learning is Self-Directed Learning (SDL). Giving students the initiative, with or without anyone's help, to monitor their own learning, formulate their own learning goals, identify their own learning resources, and select and evaluate their achievements are the goals for which the SDL Model strives (Easterby-Smith & Lyles, 2011; Gibbons, 2002; Wiggins, 2015). The SDL model emphasises skills, processes, and systems rather than fulfilling contents and tests. Through the application of SDL, students are given autonomy in managing their learning, which will lead to learning independence.

Independence in learning is based on a student's nature, their ability and attitude, and whether they understand processes by themselves or seek help from others. Ideally, students find their own way to understand a problem and solve it, setting them up for large-scale achievement in the real world (Sunarto& Hartono, 2008). Self-directed learning is defined as a process where students seize the initiative to, with or without others help, analyse their needs, formulate goals, identify resources, select strategies, and evaluate potential outputs (Gibbons, 2002). The implementation of this innovative learning model is expected to prioritise the personal experience of students. Current teaching demands of 2030 need to be discussed and agreed upon so that students can research facts, formulate concepts and theories, and discuss student skills and scientific attitudes, and this is known as the development of innovative learning models.

According to UNESCO (2015), higher education must be responsible for providing opportunities for students to build scientific capacity during their academic journey. This can be done by empowering students through innovative and high-quality teaching and learning processes that are not limited to classrooms. This requires them to solve real-life problems, thus enabling the development of gradual independent learning. This process involves regulating learning objectives, managing learning activities and applying appropriate skills and strategies to achieve learning goals (Knowles, 1975). The characteristics of a student who is very independent are initiative and perseverance in learning, acceptance of responsibility for their own learning, goal orientation, strong ability to learn independently, self-discipline, seeing problems as challenges, pleasure in learning, and high curiosity (Guglielmino, 1978). Self-study not only focuses on the accumulation of knowledge, but it is also part of a process where students gain experience in a particular domain. In this case, Bagheri et al. (2013) claims that 'independent learning is one of the best ways to learn'.

Because independent learning is a form of higher education, lecturers are responsible for providing opportunities for students to build scientific capacity, ensuring that students' education meets the demands of 21st-century life and industrial revolution 4.0, and improving the quality of learning by selecting learning models that can achieve these goals. This study aims to analyse and describe the improvement of the quality of learning through the use of self-directed learning models.

Research Methods

This research used a method known as practical in-classroom action research. The research was conducted in the Economics Learning Assessment course at the FKIP University of Riau. It involved 40 students; a lecturer, who was the main researcher and the perpetrator of the action; and two teaching assistants, who were observers. This action research refers to the

Kemmis and McTaggart (1988) models, which are carried out through several stages, namely: the planning stage, the implementation of actions, monitoring and results, and evaluation and reflection. At the planning stage, the researcher makes learning designs based on the model of self-directed learning, equipped with other materials and documents for the purposes of data collection. At the stage of implementation of the action, students conduct learning activities in accordance with the design of learning that has been made previously. Specifically for this study, only 2 cycles were carried out because from the results of evaluation and reflection, it was found that previously formulated performance indicators had been achieved.

The implementation at Step 1 begins with the orientation of the self-directed learning model, which includes an explanation of the syntax of the model, contract learning, and assessment. The learning process activity begins with the lecturer presenting the material and indicators of achievement of competencies, then accommodating various problems for the students' reference. Lecturers strive to create a conducive learning environment by generating motivation, and the students prepare to study. The next step is to develop a learning plan. The lecturer gives recommendations and some descriptions of the problems that can be developed by students in learning. Some of the problems that can be developed by students in cycles 1 and 2 are: (1) Why do teachers need to develop HOTS questions? (2) What are the characteristics of HOTS questions and the difference with the questions instead of HOTS? (3) What is the cognitive level, and the steps to compile a HOTS problem? (4) How are the sample forms of HOTS in accordance with the Basic Competencies of each of the High School Economics subjects? (5) What is the role of the HOTS problem in the assessment?

Next, each student arranges a learning plan, including learning objectives, learning facilities, learning targets, and all activities related to the achievement of learning objectives. Lecturers, in this case, play a role in assisting students either independently or collaboratively. On the step of identifying learning activities, students independently choose and identify learning strategies that are relevant to the learning targets to be achieved. Then, students implement the chosen learning strategies. They can learn independently or in groups, while the lecturers monitor and observe the learning activities. The final step of this procedure is the evaluation of learning outputs based on the problem solving discussions between students and lecturers, as well as how students continue this collaboration with the knowledge they gain. At the end of the lesson, students evaluate the learning activities that have been carried out and then reflect on the mistakes and disadvantages of each. All learning contracts are documented to be used as material for reflection, evaluation, and analysis of the learning process. In general, the learning process mentioned above takes place at a lecture meeting of each cycle. Based on the reflections at each lecture meeting, improvements can be suggested to achieve the best possible results.

At the monitoring stage, 2 teaching assistants use the observation sheet and recording instruments to obtain the lecturer and student activity data during the learning process. The

data were analysed descriptively, and the results of the analysis were evaluated to determine whether the next cycle was still needed. Next, to observe the student responses to the use of this self-directed learning model, researchers used a questionnaire instrument. The collected data are then classified and categorised systematically and according to their characteristics, then subjected to descriptive statistical analysis.

Results

Rachmawati (2010) said that the independence of student learning that is captured through questionnaires reflects the ability to learn independently. Generally, and for self-management, desire for learning, and self-control, the learning process in the first cycle was conducive. The results of the analysis of student learning independence can be seen in Table 1. The beginning, which is the first cycle, before the implementation of the action, shows a mean score of 3.8 (quite high), followed by an increase of mean-score to 4.1 after the implementation of the first cycle (a total increase of 0.3); however, the results are not in accordance with the criterion for success (performance), which has been set at 4.2. After the implementation of the second cycle, the mean-score learning independence of students increased to 4.3, which is entering high qualifications. These results exceed the success criterion, as set out in this study.

Table 1: The levels of students learning independence using the SDL model

No	Aspects Observed	Mean-score			Category
		Pre-action	Cycle I	Cycle 2	
1	Self-management	3.9	4.1	4.2	
2	Desire for learning	3.7	4.2	4.4	
3	Self-control	3.8	4.0	4.3	
Average score		3.8	4.1	4.3	High

The quality of lecturer learning is captured by using a questionnaire that reflects the behaviour and performance of lecturers through ten indicators, namely: delivery of topics and indicators; identification and accommodation of every topic-related problem that is conveyed by students; creation of a conducive learning environment; arousal of learning motivation and preparation for students to learn; accompaniment of students in compiling their learning plans; facilitation of students in realising the learning strategies chosen; discussion with students in solving problems they find; management of educational learning; development of character, personality, and professionalism; and conduct evaluations. The results of the analysis of the quality of learning can be seen in Table 2. It shows that in the first cycle, the mean score was 3.9 (good), but this result was not in accordance with the criterion of success (performance) that had been set, which was 4.2. In the second cycle, mean-score learning quality increased to 4.6 and entered very high qualifications. These results exceed the success criterion set out in this study.

Table 2: The levels of lecturer learning quality using the SDL model

No	Indicators	Mean-score		Category
		Cycle I	Cycle 2	
1	Submission of topics and indicators	3.8	4.4	
2	Identify and accommodate every problem	4.2	4.5	
3	Creating a conducive learning environment	3.8	4.7	
4	Generating learning motivation	3.9	4.6	
5	Generating learning motivation and preparing students to learn	3.8	4.3	
6	Facilitating students in realizing learning strategies	4.1	4.8	
7	Discuss with students in solving problems	3.6	4.6	
8	Manage educational learning	4.2	4.8	
9	Develop personality traits and professionalism	3.9	4.7	
10	Assessment	3.8	4.6	
Average score		3.9	4.6	Very high

Finally, the students' responses to, experiences with, and opinions of the application of the self-directed learning model in the Learning Evaluation lecture on Higher Order Thinking Skills (HOTS) were captured in questionnaires. The results of the analysis show that 82.6% agreed or strongly agreed with the model; 15.8% gave a disagreeable response; and 1.6% of students gave a strongly disagreeable response.

Discussion

One aspect that needs to be considered in learning is the use of effective and innovative learning models so that the implementation of learning can be more varied, run more smoothly and be of higher quality. In addition to the quality of learning problems that are not based on learning

outputs, sometimes the learning styles that exist in each student are in accordance with their respective characteristics. This means the quality of the learning process itself is not good, and this ultimately leads to learning outputs and student learning independence that is not optimal.

The use of the self-directed learning model is new and unfamiliar for students. This is especially true for students who have preferred to be spoiled by lecturers who always specifically explain all material. Therefore, students gave varying responses to the quality of the learning process and gave varying opinions on the use of the model. Moreover, this model of self-directed learning places more emphasis on skills, processes, and systems than fulfilling content and tests. Through the application of this model, students are given autonomy in managing their learning (planning, determining strategies, managing to evaluate), which ultimately leads to the achievement of learning independence.

The results from the analysis at the first step (before the implementation of the action) showed a mean score 3.8 (high enough) and mean-score student learning independence increased to 4.1 after the implementation at the first cycle. Although this was a net increase (0.3 points), it was still not in accordance with the success criterion (performance), which had been set at 4.2. Meanwhile, in the second cycle, mean-score learning independence of students achieved a mean score of 4.3, classified as high qualification. These results exceed the success criteria set out in this study. Independence of learning is a learning skill that in the individual learning process is pushed, controlled, and assessed by the individual himself (Lilik et al., 2013). Variance in the results of learning independence occurs because students are not accustomed to independent learning; until now, students have tended to accept explanations from the lecturer as a main source of learning, after which they simply do other tasks or activities, either individually or in groups. On the contrary, in the self-directed learning model, students have begun to get involved in determining problems, planning their learning, implementing it themselves, and evaluating their own performance. In connection with these problems, the effort to solve is done through planning in the second cycle, namely by explaining again the importance of independent learning along with its strategy, including in determining the target of achieving learning outcomes (Hiemstra, 2011).

Using this model of self-directed learning and based on the results of observations and interviews with students, it is known that in the first cycle, students have not fully involved themselves, especially in terms of autonomously developing problems, determining activities, and formulating learning strategies to achieve study targets. The effort to solve problems is done through planning in the second cycle by giving intensive guidance to students who are still having difficulty in developing problems and providing information them information on various choices of learning strategy activity. In addition, students are reminded of the importance of responsibility for agreed learning contracts. After these various efforts were

made in the second cycle, there was an increase in students' ability and enthusiasm for using the model of self-directed learning.

The results of the analysis of the quality of education in cycle 1 are indeed classified as good (3.9) but still have not reached the desired criterion (4.2). The problem of the quality of learning is related to the lecturer being suboptimal in identifying and accommodating student problems; arousing learning motivation and preparing students to learn; facilitating students in realising learning strategies; and evaluating. These factors are the cause; it is not fully the role of students in involving themselves in learning using the self-directed learning model, as seen in the results of cycle 1. Efforts to overcome these problems are done through planning improvements in cycle 2, namely increasing the intensity and focus on guiding students to develop problems in accordance with the expected learning outcomes. These efforts are in the form of discussion and enlightenment activities related to the experience of lecturers and the results of relevant research on the problems faced by teachers in the preparation of HOTS-based tests. In addition, it is also carried out to reintroduce the forms of learning activities and strategies that are available to students, according to their wishes. In contrast, for the evaluation problem in the first cycle, which is only question and answer and does not involve all student participants, the score given by students is also not optimal. During the learning process, the lecturer also made an assessment based on the observation sheet and the results were delivered before learning in the first cycle ended. After various efforts in the second cycle, there was an increase in the score to 4.6 (very high), an increase of 0.7 points.

Students' responses after the first and second cycles showed that 82.6% agreed or strongly agreed; 15.8% gave a disagreeable response; and 1.6% of students gave a strongly disagreeable response to the use of the self-directed learning model in Learning Evaluation lectures on the subject matter of the Higher Order Thinking Skills (HOTS). This shows that not all students respond well to this model's capacity for the improvement of learning quality. The number of students who disagree and strongly disagree is 17.4%; their opinions are reflected in the following items: the model of self-directed learning makes it difficult to solve the problem of preparing HOTS questions; studying this material by using a model of self-directed learning is stressful; the model of self-directed learning makes the learning less skill-focused, and it becomes difficult to understand material. On the other hand, the opinions of those who agreed with the model are reflected in the following items: studying HOTS preparation material using a model of self-directed learning allows one to explore oneself; it makes learning more active; and learning HOTS preparation materials using the self-directed learning model is a more daring approach to learning.

Less positive student responses to this model are caused by students not yet being accustomed to learning and working independently, not yet being accustomed to finding problems, not yet being accustomed to compiling their own learning plans and targets, not yet being accustomed

to determining appropriate activities and strategies for managing their learning, and not yet being accustomed to evaluating themselves. Students are not familiar with the self-directed learning model; things will work if they are frequently done. The self-directed learning model is a significant, individual process that involves taking the initiative, either with or without help from others, and the goal of this self-directed process is achieved when the student realises their own learning, personal goal management, and decision-making processes, and assesses their own results (Gibbons, 2002; Wiggins, 2015). Thus, the model of self-directed learning can result in students' analysing their own needs, formulating their own goals, setting their own self-study targets, identifying their own resources, selecting appropriate learning strategies, and evaluating their own learning, with or without the help of others. Through these results, students can foster and improve their ability to control and direct their own learning, which in turn improves their learning independence, learning activities, and student learning outcomes (Rachmadani, 2010; Sukma, 2016).

In order for this self-directed learning model to be effectively implemented to create quality learning (Mentz et al., 2016) and to realise the achievement of learning outcomes, there is a need to change the learning paradigm. Particularly, students who are only involved in listening to lectures passively must become actively and directly involved in learning activities, such as disclosing information that has not yet surfaced, analysing data, creating presentations, resolving contextual problems in learning, and other such activities. The goal of this method is stated by saying, 'We need to change the focus of *what needs to be learned* into *how to learn.*' This is in line with the constructivism view that knowledge will be able to grow and develop through the experiences (experiment) of each individual. In constructivism learning, students learn by being given complex problems, then being tasked to produce or find the skills necessary to solve it (Blake & Pope, 2008).

Another thing that can be done is to create conducive learning conditions and environments. As stated in the learning theory by Ivan Petrovich Pavlov, Edward Lee Thorndike, and Burhus Frederic Skinner, learning will take place effectively and pleasantly if the learning conditions and environment also support it. Finally, professional learning services can be provided, which would mean that lecturers are able to provide learning experiences that are mentally, physically, and socially diverse. In addition, lecturers must be able to manage learning places, material/content, learning activities, and learning resources in such a way that allows students to be actively involved in learning. The point is, lecturers must be able to manage and create diversity in learning so that they can accommodate students' various characteristics and levels of ability.

Conclusion

Providing opportunities for building scientific capacity from the student academic journey is the responsibility of the higher education concept. This can be achieved by empowering students through innovative and high-quality teaching and learning that is not limited to classrooms. The model of self-directed learning is an effective learning models that creates quality learning and fosters learning independence for students. This model requires students to have the initiative to analyse their own learning needs, formulate their own learning goals, identify learning resources, choose and implement appropriate learning strategies, and evaluate their own learning achievements, with or without the help of others.

The results of this study show an increase in the quality of learning, both in terms of behaviour, lecturer performance, and the aspects of student learning activities. In addition this learning model also shows an increase in student learning independence from cycle 1 to the next cycle. This indicates that the students' response to the use of this model was positive. This was supported by the finding that most students strongly agreed with the use of this model of learning; however, there were still 17.4% of students who disagreed with the model or found it lacking.

There are still students who disagree with the use of this model, fundamentally because the students are not yet accustomed to independent learning and tend to prefer to receive explanations directly from their lecturers. In this model, every student must take initiative, with or without the help of others. The process of this model involves being aware of one's own learning needs, arranging one's learning goals, making decisions on the sources and strategies of learning, and assessing one's learning outputs.

In order for this model to be effective in improving the quality of learning and fostering self-reliance in learning among students, a paradigm shift in learning is needed. Particularly, students who are only involved in listening to lectures passively must become actively and directly involved in learning activities, such as disclosing information that has not yet surfaced, analysing data, creating presentations, resolving contextual problems in learning, and other such activities. Lecturers must also try to create a conducive, effective, challenging, and enjoyable learning environment in accordance with the principles of learning, and they can also strive to deliver professional services.

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