



ISSN NO. 2320-5407

Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/13995

DOI URL: <http://dx.doi.org/10.21474/IJAR01/13995>

RESEARCH ARTICLE

DEVELOPMENT OF RIDEE LEARNING MODEL (READING, INJECTING, DISCUSSING, EVALUATING, EXPOSURING) TO IMPROVE SELF REGULATED LEARNING (SRL) AND SCIENCE LEARNING OUTCOMES FOR JUNIOR HIGH SCHOOL STUDENTS

Ardia Fauziana, Wachju Subchan and Indrawati

Department of Science Education Magister, University of Jember, Jember, Indonesia 68121.

Manuscript Info

Manuscript History

Received: 25 October 2021

Final Accepted: 29 November 2021

Published: December 2021

Key words:-

Learning Model Ridee, Self Regulated Learning, Outcomes

Abstract

The application of learning models that are in accordance with the characteristics of students and the characteristics of subjects that can change or improve students' skills in mindsets is very rare or even non-existent. The learning model that will be developed is RIDEE. Where the RIDEE learning model comes from combining the two previous learning models into a learning model that is expected to be applied practically, effectively, and validly. Science is one of the sciences that has the characteristics of events in everyday life. In everyday life, it is necessary to increase students' skills where these skills can make it easier for students to achieve learning goals, both in science lessons and in other subjects. The skill or ability is the self-regulation ability for the students themselves (Self Regulated Learning), in science learning the self-regulation ability in students is very necessary, where students will know to what extent the students' inability or understanding of their own academic and non-academic abilities students, so that students are expected to have good self-regulation values to be applied in everyday life, both in the learning process and in the process of social communication in students' daily lives. Thus the academic ability of the students themselves will also be able to increase, especially in science learning outcomes in junior high school. This study aims to examine the effectiveness of the use of brain-based learning materials on the excretory system on students' self-regulated learning skills. The method in this study is 4D, with three meetings in three different classes. The data analyzed was obtained from the value of Self Regulated Learning.

Copy Right, IJAR, 2021., All rights reserved.

Introduction:-

Improving the quality of a country is accompanied by an increase in human resources (HR), one of the improvements in human resources is identical to the quality of education in the country, the quality of proper and good education is one indicator that the country has qualified human resources. Education has the function of empowering human potential to inherit, develop, and build future culture and civilization. Quality education can be

Corresponding Author:- Indrawati

Address:- Department of Science Education Magister, University of Jember, Jember, Indonesia 68121.

done through the learning process. One way to improve the quality of education in Indonesia is that teachers must be creative and innovative to develop effective, fun, and efficient learning models to hone students' abilities in improving their learning outcomes. One appropriate learning model that is expected to improve self-regulated learning and science learning outcomes is the RIDEE learning model (Reading, injecting, discussing, evaluating, exposing).

The purpose of this study was to develop a valid, effective and practical RIDEE (Reading, injecting, discussing, evaluating, exposing) learning model to improve student self-regulation (Self Regulated Learning) and student learning outcomes. Product development research applies the 4D development model by S. Thiagarajan which consists of several stages including define, design, develop, and disseminate.

The main purpose of Self-Regulated Learning is how to improve the ability of self-regulation in students at a higher level, especially with regard to the ability to realize and evaluate the abilities and understanding of students so that students can know how to solve a problem using the knowledge they have. and self-regulation of students themselves. (Zimmerman, 2000).

Currently, a learning model is needed that is able to create self-regulation in students, namely self- evaluation in which students know their own abilities and understanding, these abilities can create a good and evaluative learning climate. So far, many have neglected students' self-regulation abilities, only focusing on self- evaluation. But ignoring self-regulation, it can make it a reference in learning. Complex learning is a process that better reflects the way human thinking is naturally designed for learning (Tarwiyah, 2018). In implementing self- regulated learning skills improvement, students' awareness in managing their own learning methods will increase self- efficacy related to intrinsic motivation and learning outcomes (acquisition of knowledge and skills)(Zimmerman, 1990:188-196).

The learning model that will be developed in this research is to combine the results of the synthesis of two learning models, namely the TTW (Think, Talk, Write) learning model and the RQA (Reading, Question, and Answering) learning model which will later be called the RIDEE learning model. Because in the researcher's perspective, the RIDEE learning model has a regulatory syntax or student self-evaluation so that it creates self- regulation in students to improve learning outcomes. The learning outcomes obtained by students are influenced by two main factors, namely internal and external factors (Sudjana, 2010).

According to Bandura (1977), individuals have the ability to control the way they learn by doing self-observation, self-assessment, and responding to this often called SRL ability. Zimmerman (in Bembenutty et al., 2015) conceptualizes Self Regulation as a cyclical process with three phases: forethought (thinking), performance (performance), and self-reflection (self-reflection). This phase is cyclical because each process in each stage of self-regulation affects the next phase. For example, after students engage in self-reflection, they continue the forethought cycle with a new task or revision of the previous one. In the performance stage, students adjust their actions, behaviors, and beliefs while tackling similar new tasks. The SRL stages can be used in the learning process in delivering material using a scientific approach. The scientific approach also fulfills the rules of science, namely products, processes and attitudes (Hilda, 2015). The scientific approach encourages the development and development of students' attitudes, knowledge and skills competencies for the better and fulfills scientific principles (Wiyanto, 2017).

Method Of Research:-

This research was conducted in eighth grade of junior high school in 2020/2021 academic year. This research was conducted for 3 weeks by using the circulation system 30 students were involved in this research. The research instrument consist of essay tests and self regulated learning skills questionnaires. The implementation of essay tests learning uses syllabus, learning plans, and worksheets. Whereas self regulated learning skills refer to the indicator self regulated learning questionnaire developed by Zimmerman (1998).

This type of research is a quasi experimental study. The subject of the study was given a questionnaire before learning and a pretest. After pretest, the application RIDEE model was carried out. Then the application of model pattern RIDEE learning , all students will be given a post test and final self regulated learning questionnaire. The method used in this study is the incorporation of qualitative methods and quantitative methods. Quantitative methods were used to analyze data taken from the tests (pre test and posttest) and questionnaires about self regulated learning skills after the application of RIDEE model patterns. While qualitative methods are used to analyze data taken from questionnaires and interviews with 7 schools in Jember city. The variables in this study are independent variables and dependent variables. The independent variable includes a RIDEE model pattern while the dependent variable includes

self regulated learning skills. This following Figures is experimental research design mixed with qualitative and quantitative methods.

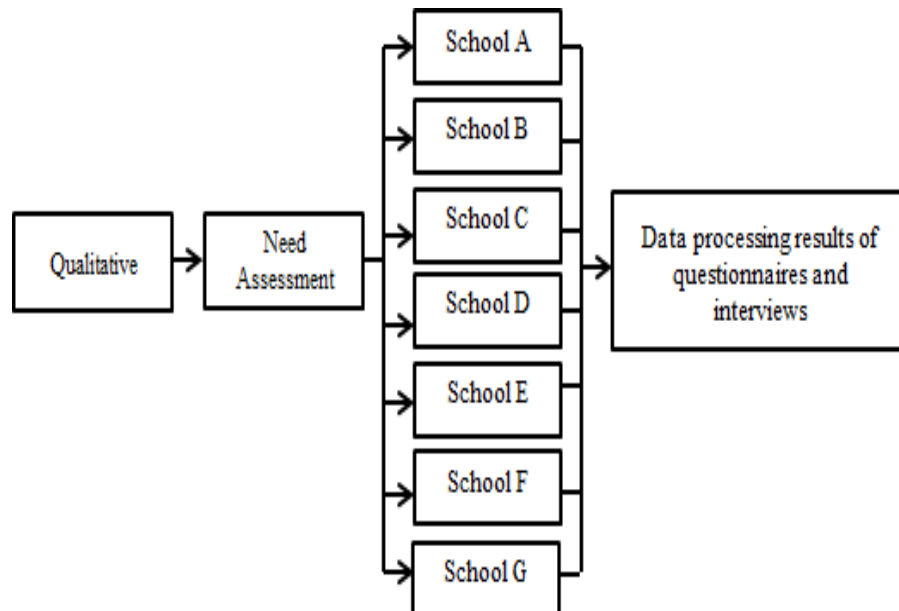


Figure 1:- The Step Of Qualitative Method.

Based on Figure 1. The steps of qualitative method include questionnaires carried out in 7 schools in Jember city order to find some articular problems faced by teachers and students in science learning. After conducting questionnaires, the datas that has been collected were processed.

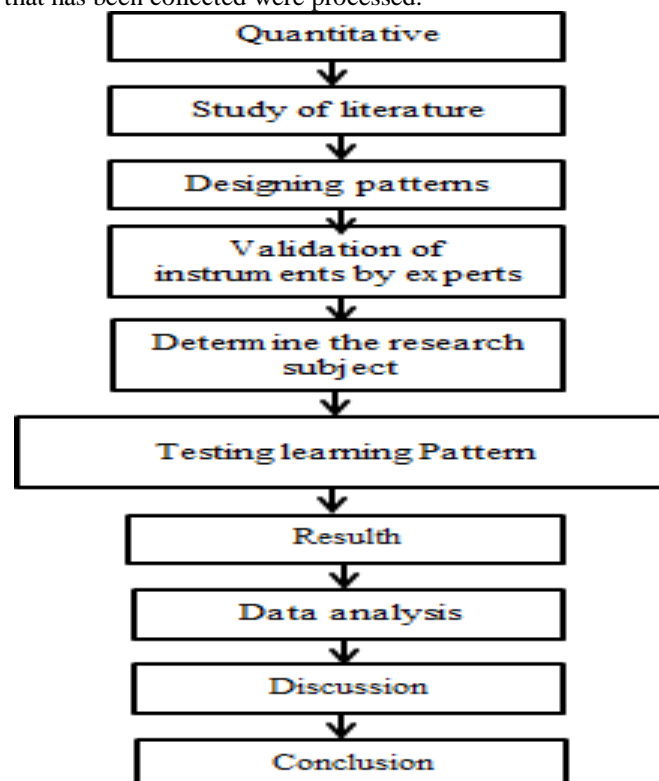


Figure 2:- Quantitative Method.

Based on Figure 2. The results of questionnaires conducted by literature studies then designing the right pattern that is appropriate to empower self regulated learning skills. Then make instruments (RPP, Syllabus, tests,

implementation of learning) that will be validated by experts. The next step is to validate the instrument by experts. After that the researcher determines the research subject, tests RIDEE model learning pattern, results, analyzes the data and the last step is conclusion. The following is the formula for normalized gain

$$\text{Normalized gain (g)} = \frac{\text{score posttest} - \text{score pretest}}{\text{score maksimum} - \text{score minimum}}$$

Value scale that can be used in achieving the ability of self regulated learning as follows :

Table 1:- Criteria Normalized gain (g).

Normalized gain score	Criteria normalized gain
$0,70 \leq \text{normalized gain}$	High
$0,30 \leq \text{normalized gain} < 0,70$	Medium
Normalized gain $< 3,0$	Low

Results And Discussion:-

This type of research is development research (R and D). This research includes development research because it develops a learning model. The learning model developed is the RIDEE learning model (reading, injecting, discussing, evaluating, and exposing) for junior high school (SMP) class. This study uses a prototype development adapted from 4-D (Four D), including 4 steps, consisting of (1) definition, (2) design, (3) development, and (4) deployment. The research and development subjects of this research were grade VIII students of SMPN 3 Jember, SMPN 7 Jember, and SMPN 13 Jember in Jember Regency, East Java, Indonesia for the 2020/2021 academic year. In this study, students who were measured were student learning outcomes and increased self-regulated learning or self-regulation in students, with the aim that students who have high self-regulation will be able to solve problems in everyday life both in the process of learning activities at school. as well as the process of social communication in everyday society. This research was conducted three times in three sessions in each class.

Research on RIDEE model was carried out in class VIII of SMP / MTs in Jember Regency on Academic Year 2020/2021. The results of the study were obtained from 30 respondents, the study obtained from data self regulated learning skills on the application of RIDEE models. The research data for the application of RIDEE models is in the form of quantitative and qualitative data. Data from self regulated learning skills at the beginning and end can be seen in Table 2, while the graphs of the average score of self regulated learning skills can be seen in Figure 3 and discussion also evaluating and then exposing in syntacmatic from RIDEE models can be patterns that can develop the self regulated learning alignment on pre-based reflective RIDEE can be seen in Figure 3

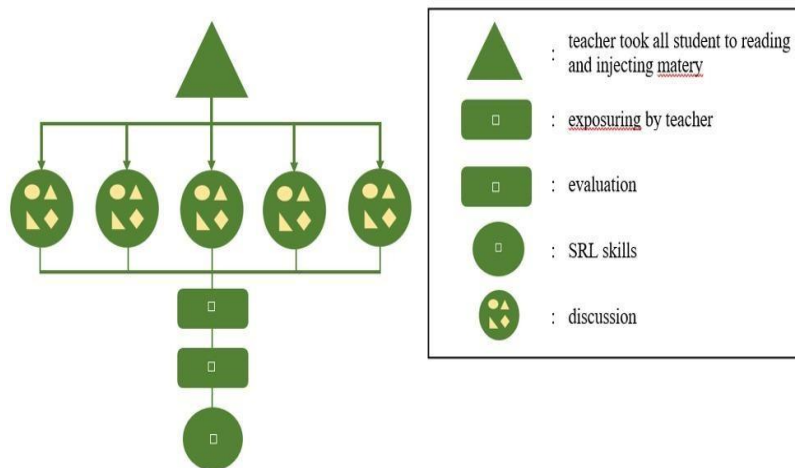


Figure 3:- Pattern of discussion on empowerment of RIDEE models based of self regulated learning skills General description of the discussion that took place in the classroom,

self regulated learning Skills	The numbers of student	mean	Normalized gain (g)	Category
--------------------------------	------------------------	------	---------------------	----------

initial self regulated learning skills	30	70,38	0,8	high
Final self regulated learning skills	30	91,29		

Table 2:- Results of self regulated learning skills on RIDEE learning models shows the mean initial self regulated learning skills with the number of students as many as 30 people have an average of 70.38 while the average final skill with a total of 30 students has an average of 91,29. Normalized gain (n) metacognition skills of 0.8 with a high category.

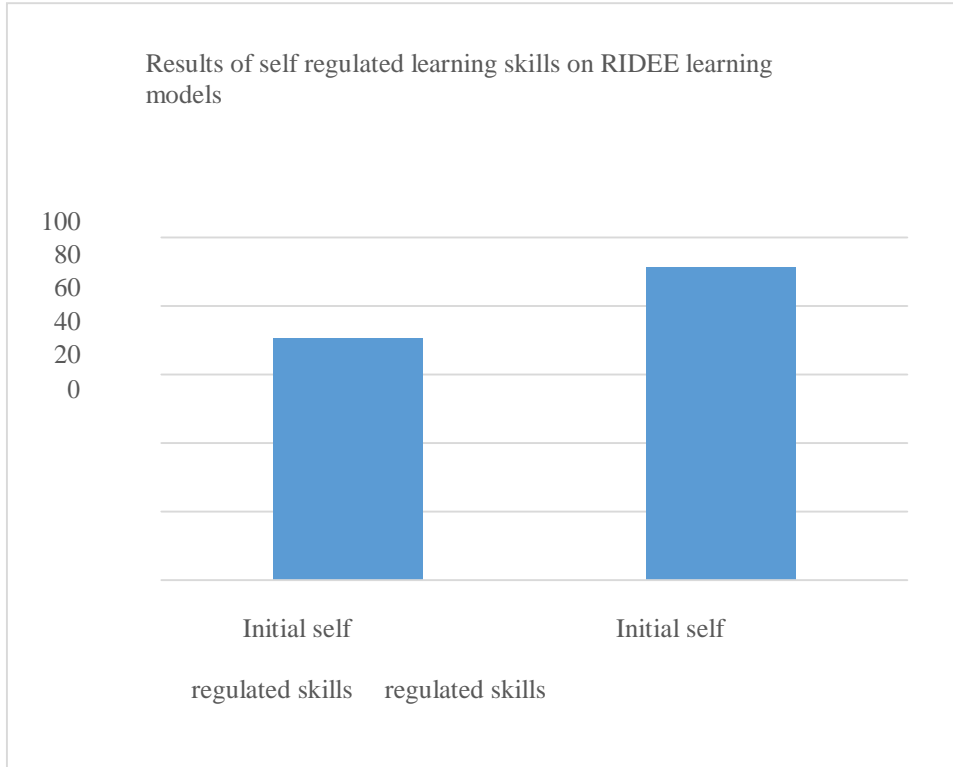


Figure 4:- Graph of average initial and final self regulated learning skills and Shows a graph of the mean initial self regulated learning skills with an average of 70,38 a while the average final skill is 91,29.

Discussion:-

The research steps were carried out by researchers as role models. The sample used in this study was 30 students. First, the teacher makes a discussion pattern that will be used in empowering self regulated leaning skills in the RIDEE (Reading, injecting, discussing, evaluating, exposuring) model.

In the first study conducted by the model teacher, the teacher explained the apperception, motivation and learning objectives to be achieved that day. The teacher shows a learning video that is useful to encourage students to find a problem. Next is to go directly to the RIDEE models syntax by explaining the material. The first stage, The teacher asks students to read to they;s material . the second stage the theacher explains the material and the teacher asks students to ascertain important concepts in the material and make questions from the material that has been delivered by the teacher it is call injecting materials in syntax RIDEE models.. The third stage is discussion. In the discussion, process students become centers (student centers) students discuss previously made questions and find solutions to answer questions that have been asked. With the discussion, students are able to share ideas and experiences, learn collaboratively, and apply knowledge into real world problems. Through active discussion among students and with their teacher, and through interaction, students develop a capacity to reflect on their ideas and apply it and also students look for data on various sources that support to solve problems. The fourth stage the students doing their exam abaout this material. and the last stage is research / experiment, students and teachers after the exam, corrections are togetherh, if there are many mistakes in certain material, the teacher will explain back to that section. The research or experimental steps can prove what students have learned in real life. Experimental activities will make students more confident in the truths or conclusions that come from their own research rather than just accepting teachers or other sources.

The last activity in this study is self regulated learning conducted before and after the learning process. From the

results of the study in getting the mean initial self regulated learning skills with the number of students as many as 30 people had an average of 70.3 while the average final skill with the number of students as many as 30 people had an average of 91.2. Normalized gain (n) self regulated learning skills of 0.8 with a high category.

Marking important concepts in the learning process will help students understand the material presented by the teacher, so that they will empower students' regulation their self called self regulated learning skills. In addition, student control makes questions and answers test themselves. Activities to make questions and conduct data collection will make students and can empower regulation their self skills. The third is discussion, students communicate between each other to discuss the questions they have made and find alternative solutions to the questions asked. At this stage the division of groups is divided heterogeneously (Richey ,2000). With a small group of students, they can find out their own knowledge so students can empower their respective methods. The discussion method is very important because it can create a positive learning environment. In addition, the discussion can build a patterns of student participation so that there is a social interaction between the teacher and students and as the result class becomes more active.

Some aspects of students' regulation their self called self regulated learning skills can be empowered through discussion activities. Group discussion is a meeting of two or more people which aim to produce joint decisions through a process of mutual exchange of experiences and opinions. The goals and benefits obtained when conducting discussions are that students can gain valuable experience from discussion friends and discussion guides, enhance motivation and enthusiasm of students to do some tasks, develop critical thinking skills, able to do analysts, and can develop self regulated learning skills and student courage opinion clearly (Chen, Bodong, 2017).

The next step is collecting data from various sources to solve a problem faced by each group. The last is research or experiment. In the experimental phase there are communication activities between group members. A study can not be separated from communication between groups and various arguments. The process of functioning of communication and debating skills cannot be separated from the principles contained in the components of metacognition skills in planning, information management, monitoring, revision, and evaluation (Suratno,2017). Therefore, research or experimental activities has the potential to improve students' self regulated learning skills. Through self-regulated learning, it will be more directing students to their own efforts to acquire knowledge and skills compared to only depending on teachers, parents, or guidance agencies. Students must learn to use certain strategies to achieve academic goals in order to achieve self-efficacy. This assumes the importance of three elements such as self-directed learning strategies, perceived success, performance skills, and commitment to academic goals (Zimmerman, 1989).

Self regulated learning is very important to be empowered to students in the learning process for students' academic success. With the empowerment of regulation their self skills students will be able to manage positive conditions and students can find out their weaknesses so that they can be improved by building a new perspective. Remaining self regulated learning skills can be trained to become a students habit so that they can be able to understand the situation under consideration, students will become more trained in how they manage and perform positive abilities (Flavell, 1979). Middle school students with high regulation of their self skills have knowledge of the cognitive skills they have. In addition, they learn faster and harder using certain strategies that involve regulation their self skills (Zimmerman,1990).

Conclusions:-

The common problems faced by teachers are they have not empowered self regulated learning skills yet in teaching science . In fact, if students empower self regulated learning skill, they would be able to know how to learn well so that their learning outcomes, reflective learning models RIDEE models learning, self regulated learning skills obtained by students amounted to 0.8 with a high category. So the discussion pattern of student centers can empower students' self regulated learning skills in RIDEE learning models. Suggestions in this study are: before the learning process is carried out, the teacher must prepare learning media, explain to students the learning steps and discussion patterns that will be applied in the learning process so that regulation their self called as self regulated learning skills can be well empowered.

References:-

1. Andayani, 2015. Psikologi Pendidikan. Suatu Pengantar. Jakarta : Rajawali Press.
2. Bandura, A. 1977. Social Learning Theory. Prentice-Hall series in social learning theory. Prentice Hall.
3. Chin C and L G 2005 Prohem Based Learning: Using I11-Structured Problem In Biology Project Work. Wiley Interscience **90** pp 44-67.

4. Liu Lu, Xiaohuang Du, Zuo Zhang, Jiyin Zhou 2018 Effect Of Problem-Based Learning In Pharmacology Education: A Meta-Analysis *Studies in Educational Evaluation* **60** pp 43-58.
5. Richey D and Stacey A 2000 The Role Of Metacognitive In Learning Chemistry *Journal Of Chemical Education*.
6. **77** pp 915-920.
7. Chen, Bodong, Yu-Hui Chang, Fan Ouyang 2017 Fostering Student Engagement In Online Discussion Through Social Learning Analytics *The Internet and Higher Education* **37** pp 21- 30.
8. Suratno and Dian K 2017 Performance Profile of the Coffee Plantation Area Students in Solving the Math-Science Problem *Advanced Science Letters* **23**.
9. Sutarto dan Indrawati. 2013. *Strategi Belajar Mengajar Sains*. Jember: University Press.
10. Flavell J H 1979 Metacognition and Cognitive Monitoring : A new area of cognitive- developmental inquiry
11. *American Psychologist* pp 906-911.
12. Zimmerman, dan Martinez-Pons,. 1990. Student Differences in Self-Regulated Learning: Relating Grade, Sex, and Giftedness to Self-Efficacy and Strategy Use. *Journal of Educational Psychology*. No. 1. Vol. 82. Hal. 51-59.
13. Zimmerman & Schunk. 2001. Metacognition Self Regulation and Self Regulated Learning: Research Recommendations. *Educational Psychology Review*. Vol 20, No 4, Hal 463-467.
14. Zimmerman, B. . 2002. Becoming a self regulated learner: an overview. *Theory into Practice*. 41(2):64-67.