Simulation-Praxis-Collaborative Lecture Method Design for Students' Self-Regulation Development

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Abstract: This research aims to explain simulation-praxis-collaborative based lecture method design. This method is designed to develop students' self-regulation in the integrated learning lecture of PGSD (Primary Teacher Education) department of Universitas Pendidikan Indonesia. The self-regulation is the ability to generate and monitor one's own thoughts, feelings and behaviours to achieve a goal. The purpose of self-regulation in this study is that students are able to plan, implement and evaluate integrated learning well. Pattern of self-regulation in this study is using the revealing tool in the form of reflective journals that include questions related to the determination of normative goals, self-assessment, attribution, and self-reactions (solute effort). Simulation-Praxis-Collaborative learning method is a learning method that emphasizes collaborative reflection among students, observers, and lecturers in integrated learning course. Reflected object is the performance simulation of integrated learning practice. The method of this research is R & D, and is currently entering the validation stage of the learning model by the Education Experts. After the design of the learning model is validated, the next step is to test the hypothetical learning model on a limited scale. This research has a theoretical and practical significance. Theoretically, this research helps to enrich the scientific literature of pedagogy lectures on PGSD study program. Practically, this study provides an alternative method of lectures that can improve student's self-regulation ability.

1 INTRODUCTION

The essential courses for preparing PGSD graduates with expertise in basic education are integrated learning courses. The integrated learning lectures provide theoretical and practical knowledge on how to implement integrated learning in the context of the 2013 curriculum. Based on the preliminary studies, FGD (Focus Group Discussion) with some students concluded that they have not fully mastered the concept of integrated learners, not yet adept at designing integrated learning, not even skilled in implementing integrated learning. Some of the causes are limited teaching materials, so students have limitations to review the concepts that relate to integrated learning. Related to the limitations of teaching materials, the complexity of integrated learning materials is also the cause of the lack of optimal mastery of material on integrated learning content. In addition, the methods used in the integrated learning courses of discussion and lecture methods have not been optimal in developing the

students' ability in designing, implementing and evaluating the integrated learning.

In this case, the ideal of lecturing integrated learning should more emphasizes the principles of self-regulation development that facilitates more for student's autonomy in learning to build understanding through learning practices that promote simulation, reflection and collaboration.

Why is self-regulation important for student learning development? Many studies of learning and training, covering a wide range of fields, have consistently shown that self-regulatory capabilities are essential not only for acquiring new knowledge and new skills, but also for the high-level expertise achievement (Hoffman et al., 2014). In addition, self-regulation refers not only to the monitoring and controlling the cognitive resources such as attention and effort, but also to modulate the emotional experiences that are stimulated during learning. (Balzarotti, Gross, and John, 2010); evaluate self-progress and formulate expectations about the possibility of goal achievement (Nenkov, Inman, and Hulland, 2008); assessment and management of

potential risks associated with achieving one's goals (de Haan et al., 2011); and an assessment of how to reward new knowledge will ever be learned, which can also affect future learning goals (Carver, 2006).

Referring to these problems, it can be understood that there is a gap between the ideal conditions of integrated learning lectures and the today's facts. Therefore, the researcher wants to develop the lecture design by using simulation-praxis-collaborative method.

In Sanjaya (2008, p.159) the simulation method can present the learning experience using artificial situations to understand about certain concepts, principles, or skills. In this research the simulation method is presented by prioritizing praxis (reflection-action) collaboratively between the simulator group, the lecturer and the observer group. The hope of this study is the student's self-regulation ability in managing integrated learning from planning, implementation, evaluation can increase significantly.

2 RESEARCH METHOD

The research which is carried out belongs the type of RandD (Research and Development) research. It is particularly noted that in the field of education, research and development abbreviated RandD is a process used to develop and validate educational products and discover new knowledge through "base research" (Gall et al., 2003: 569-570) . Furthermore, Gall et.al (2003: 569-570) suggests that the process using the research and development model is carried out through the following ten steps:

1) Assess needs to identify goal (s).
2) Conduct instructional analysis.
3) Analyze leaners and contexts.
4) Write performances objentives.
5) Develop assessment instruments.
6) Develop instructional strategy.
7) Develop and select instructional materials.
8) Design and conduct formative evaluation of instruction.
9) Revise instruction.
10) Design and conduct summative evaluation.

This research has entered the sixth step, which is to construct instructional strategy (hypothetical learning model) that will be described in the results and discussion section. The hypothetical model of simulation-praxis-collaborative process will be described by the researcher in the chart below:
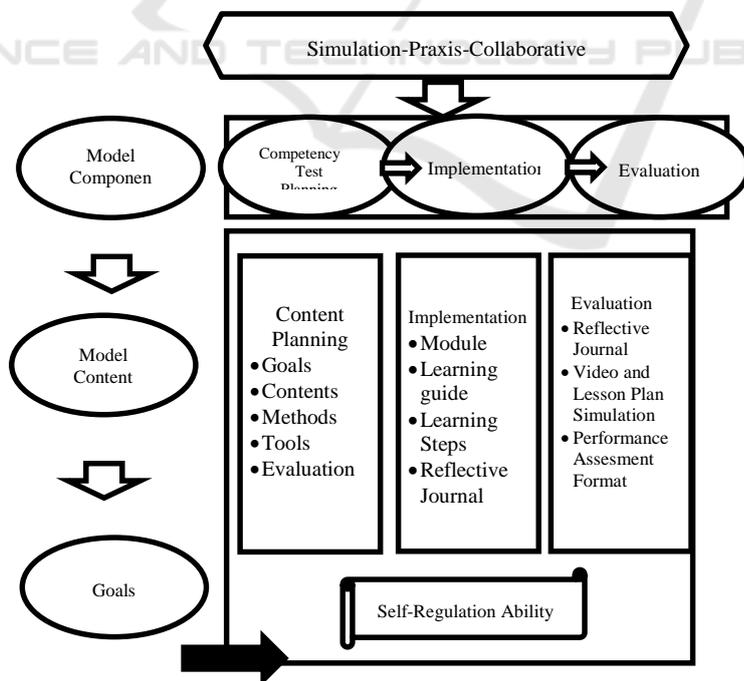

Figure 1: The hypothetical model of simulation-praxis-collaborative process.

3 RESULT AND DISCUSSION

3.1 Simulation Method

The simulation method is based on the theory of social constructivism, which assumes that learning is not a mere transfer of knowledge, but builds learning through doing through constructive social interaction. The simulation learning method can describe the true condition of a situation, the simplification of a phenomenon in the real world. Simulation is an imitation or pretentious act (Sunaryo, 1989: 137). In each form of simulation there will occur things as follows:

a. The players play a role that represents the real world, and also make decisions in reacting their judgments to the settings that they find by themselves,
b. They experience artificial deeds associated with their decisions and their general appearance,
c. They monitor the results of their own activities, and are directed to reflect on the relationship between their own decisions and the final consequences that show the composite of the various actions. Based on that opinion, it can be interpreted that the method of simulation is a method of learning that seeks to bring the real situation of the theory being learned through demonstration, role play, and a series of activities that emphasize the learning experience directly.

3.2 Praxis Learning

Referring to Sunaryo's opinion, it can be concluded that the simulation method does not stand alone as a learning that only focuses on "imitating or practicing scenes", the simulation method requires collaborative reflection. Reflection will help the simulator to identify weaknesses and strengths, monitor the achievement of goals, identify attributions, and design improvement efforts. Reflection accompanied by transformative action is called praxis. The foundation of praxis-based learning is the critical pedagogic theories popularized by Paulo Freire. In Freire (Fakih, 2008) "Education should be a process of independence, not socio-cultural taming. Education aims to work on human reality, and therefore, methodologically based on principles of action and total reflection."

In other words, praxis is an integral part of reflection, words, and action, since man is essentially a unity of functions of thinking, speaking and doing.

Through praxis, education in every process must stimulate the direction of an action, then it is reflected again, and from that reflection, a better new action is taken. And so on, so the process of education is a cycle of acting and thinking that is going on continuously.

At the moment of acting and thinking that is how a person expresses the results of his actions and thoughts through words. With this learning cycle, every student is directly involved in the problems of world reality and their self-existence in it. Praxis-based learning places teachers and students in parallel position as a subject that reflects his knowledge and actions with words that are rich in meaning. When reflecting, both teacher and student, both play a role to reflect the result of reflection as a reality operation tool in a dialogical-intersubjective way. Freire calls him the disciplined teacher, and the patronized student. Student and teacher go hand in hand to build knowledge through dialogical interaction. The main features of praxis-based learning are:

3.2.1 Learn from Reality or Experience

The material being studied is not a doctrine (theory, opinion, suggestion, discourse, advice, etc.) of a person, but the real condition of society or the experience of one who is involved in a particular reality. So, there is no authority of knowledge of a person who is regarded as superior to the others. Validity of one's knowledge is determined by his proof in the reality of action or direct experience, not on theoretical rhetoric.

3.2.2 Not Patronizing

Therefore, there is no "teacher" and no "patronized student". Everyone involved in this educational process is "teacher and student" at the same time.

3.2.3 Dialogical

In praxis-based education, there is no longer a one-way teaching-learning process, but a multilevel communication process, multimedia and multi-strategies such as participatory discussions or role playing. The various communication processes nowadays are more likely creating the critical dialogue between teachers and students.

3.2.4 Doing

Education begins with experiences, events, stories, case studies, games and other media as a way to see the available data.

3.2.5 Uncover Data (reconstruction)

The reconstruction phase can be interpreted as a process of re-explaining the details (facts, elements, sequence of events, etc.) of the reality (object) under discussion. This stage is called the process of experiencing, because it always begins with the experience of extracting by way of direct activities first.

3.2.6 Review the Analysis

That is the activity to examine the causes and plurality of relationships of existing problems in the particular reality, whether it concerns the order, rules, or system that became the root of the problem.

3.2.7 Conclusion

It is formulating the meaning or the essence of reality as a lesson and a new lesson and understanding or a new understanding which is more complete. The formulation is in the form of general principles and conclusions (generalizations) of the review of experience results. This way will help to formulate, detail, and clarify the things that have been learned.

3.2.8 Action (Application)

The final stage of this cycle of learning is to decide and implement new actions that is better both based on the results of an understanding or a new understanding of the reality.

In order to keep the learning process remains on the basis of critical education as its philosophical foundation, its learning and implementation guidance should be structured in a process known as the "structural experiences learning cycle". This learning process has been tested as a learning process that fulfils all the tuition or critical education prerequisites. This happens because the sequence of processes makes it possible for everyone to achieve an understanding and awareness of a social reality by engaging (participating), directly or indirectly, as part of that reality. The experience of involvement is what enables everyone to do so. (Faqih, et al, 2008).

3.3 Collaborative Learning

Referring to Faqih's opinion, that praxis-based learning seeks to awaken the critical awareness of human beings to always be intentional in observing social reality, refusing to be passive in the effort to transform it, and most of all collaborative human involvement. One of the foundations of collaborative learning theory is Vygotsky's theory. Basic assumption of the Vygotsky's social constructivism theory is "What the child can do in cooperation today he can do alone tomorrow". (Warsono, 2012: 59). What children do or learn today by working together (group) can be done independently in the future. Referring to the Vygotksy statement, it can be interpreted that the learning process in the classroom must involve social interaction among students through study groups where students are positively dependent on each other to achieve common goals. Collaborative learning can also be called cooperative learning.

According to Johnson and Johnson collaborative learning cannot be equated with group learning, group learning will look like collaborative learning if it meets the following five elements:

- **Positive interdependence**, is when team members are bound to cooperate with each other in achieving learning objectives. If any team member fails to work on his or her part, everyone else will get the consequences. (Swim or sink together)
- **Individual responsibility**, that is, all students in the team are responsible for doing their own part of the job and are obliged to master all learning materials.
- **Face-to-face interaction**, although each team member individually does his own part of the job, a number of tasks must be done interactively, each providing input, reasoning and conclusions, and more importantly teaching each other and encouraging each other.
- **Implementation of collaborative skills**, where students are encouraged and assisted to develop mutual trust, leadership, decision making, communication and conflict management skills.
- **The group process**, in which team members set group goals, periodically assesses what is well achieved in the team, and identifies changes that must be made to enable the team to function more effectively. (Warsono, 2012: 168).

Regarding to the characteristics of collaborative learning, research reports that self-regulatory capacity is learned through interaction with others in the social environment, internalized and then used by

individuals to interact with the social world. From this perspective, self-regulation development involves the use of cultural tools, such as electronic communication, to mediate the relationship between the mental processes of learners and their social life. Current studies use text messaging, cultural tools, to mediate relations between their subjective and social life. (Connover and Daiute 2015).

3.4 Simulation-Praxis-Collaborative Method

It has been described before about the notion of simulation methods, praxis-based learning, and collaborative learning. If all three terms are combined, it can be a whole method of learning, it is a simulation-praxis-collaborative method. This method can be interpreted as a simulation method that emphasizes the combination of simulation practice, reflection, and corrective actions discussed collaboratively that involves simulators, observers, students and lecturers.

3.5 Self-Regulation

Self-regulation, is one of the main drivers of human personality (Boeree, 2010). According to Steinberg (2014) "the capacity for self-regulation may be a major contributor in achievement, mental health, and social success. Research has reported a link between adolescent self-regulation and maturity goals, highlights the impact of self-regulation on academic achievement, creating good relationships, maintaining the profession and positive mental health (Mischel, 2014; Tough, 2012).

The term self-regulation was first raised by Albert Bandura in his social learning theory, defined as a person's ability to control his own behavior (Boeree, 2010). Self-regulation is an internal motivation, resulting in a person's desire to set the goals in life, plan strategies to be used, and evaluate and modify behaviours to be performed (Cervone and Pervin, 2010).

According to Zimmerman (2000) self-regulation of the social cognitive theoretical lens "encompasses more than metacognitive knowledge and skills, they also include affective and behavioural processes, and self-efficacy to control behavior toward goals" In this perspective, it is understood that self-regulation is not as a single condition internal experience, but as a process in which a person has an agency over their cognition, emotions and their behavior (Zimmerman, 2000).

There are three stages that can be done by humans to emerge self-regulation. Among them are manipulating external factors, monitor and evaluate internal behavior. Basically self-regulation is formed by the existence of interconnected external and internal factors. In the context of external factors, self-regulation affects in two ways, first by providing a personal standard to evaluate the behaviours obtained from the interaction. The second is by providing reinforcement. While in the context of internal factors, self-regulation affects with three things, including observation of self (self-observation) to the behavior it raises. Next is the assessment of the behavior (judgmental process), that is our behavior will be compared with the personal norms and norms on society. After that, there will appear self-affection (self-response), the results of the assessment will determine whether to get a punishment or reward (Alwisol, in Alfiana 2013).

Related to Alwisol's findings, this study formulates self-regulation ability into four stages: 1) Determination of Normative Objectives, 2) Observation and Self-assessment, 3) Self-attribution, 4) Self-Reaction (Solutive Efforts). The explanations are as follows:

3.5.1 Normative Objectives Determination

The first step of self-regulation process is the determination of the normative goal of an action. In this study, the determination of normative objectives can be revealed with the guidance of RPP design. The essence of the RPP design is to set learning objectives to be achieved in the simulation process, the reflection results of the simulation process can be used as feedback and benchmarks achievement goals. In Bandura's opinion, "Self-assessment reflects the importance of goal attainment. When a person does not really care about their performance, they cannot judge their performance or move effort to develop it "(Bandura 1986 Schunk 2008).Regarding to Bandura's opinion, it can be understood that in order to keen self-regulatory skills, students must be able to determine the objectives to be achieved in the simulation process, whether it is related to RPP, implementation, or evaluation of integrated learning. Through the ability to set goals, students are guided to assemble the roadmap to achieve that goal, to organize strategic steps for the effectiveness of goal achievement, and to build internal motivation vigorously.

3.5.2 Self Evaluation Observation

The second step is observation or self-evaluation, According to Cheng (2011), independent learners optimize their learning strategies continuously after they are able to do self-assessment of their success learning. Furthermore, according to Mace et al (2001) "Self-observation refers to emphasizing attention to some aspects of one's behavior and often combined with recording of frequency or intensity". Methods include narrative, frequency calculation, duration setting, behavioural rating, and behavioural traces and related records (Mace et al., 1998). Regarding Mace et al's opinion, students should be able to observe their capacity and self-competence in integrated learning courses. Self-observation activities can be done by reflecting on the advantages and disadvantages identified in the simulation process. Self-observation or self-assessment can also be done by comparing the current performance levels with goals. Self-evaluators depend on the type of self-evaluation standard used. The nature of purpose, the importance of goal attainment, and attribution (something that realized as the cause of the outcome). First, self-assessment refers to the normative standard or code of ethics carried.

In Bandura's short opinion (Schunk, 2008) "normative standards are often obtained when observing models". Contrary to the opinion of Bandura, the author's opinion about normative standard refers to SOP Simulation of the ideal integrated learning. Before simulation of integrated learning, lecturers can present simulator models that are considered skilled in planning, implementing and evaluating integrated learning. Through performance comparisons with a model simulator, students have greater chance of authentic self-assessment.

To develop self-regulatory competences, it is vital to help them succeed now, and also to ensure their success in the future. Actions that relates to the performance control have an important role in the self-regulation process that leads to the process of monitoring students' learning. Control of this action allows them not only detect the weaknesses of the learning process, but also alert to the effectiveness of learning strategies which is in use, teachers can assist students in this self-regulation process, so that students can develop their responsibilities towards learning (Goulão and Menedez, 2015). New predictors of academic success are placed on the ability to manage their own learning processes. Autonomous learning requires self-management competence and proactive, independent, and self-

control knowledge of the learning process. (Macejka, 2014).

3.5.3 Attribution

After self-evaluation, the next step of self-regulation is to be aware of the attribution of an experience successfully achieving its goals. Attribution is called the identification of the cause of success or failure. Attribution is divided into two part, those are internal and external. Internal attribution refers to the ability of self efficacy and goal attainment. While external attribution refers to the normative standards, modeling, and demands of the profession. In Schunk's opinion "Associated with attribution, people will be more proud of their achievement when they associate it with ability and effort rather than turning it to external causes". (Schunk 2008). Another opinion says "it is said that one can achieve better results through harder work will motivate someone to do it, because the feedback conveys the impression that a person has the ability (Schunk 2008). In this research, attribution identification process is done collaboratively. Students and lecturers collaborate to find the cause of the shortcomings and advantages of the simulation process that has been implemented. This is done in order to build a common perception so that the formulation of improvement can be formulated together.

3.5.4 Self Reaction

Self-reactions related to outcome that was resulted from previous processes. Self-reactions are manifestations of behaviours or actions that can influence self and social situation. Self-reactions are the results of beliefs gained from the reflective experience of a successful achievement of a goal. In Schunk's (2008) "belief that someone is showing progress, along with the predicted satisfaction in goal completion, strengthens self-efficacy and maintains motivation". Furthermore Schunk affirmed "If one believes that they are less effortful but can show progress by strengthening effort, they will feel confident and multiply their efforts. Motivation will not develop if students believe that they are lack of ability and will not succeed no matter how hard they try. " It can be understood that self-reactions are a motivational explosion because of the satisfaction of the goal achievement, the experience succeeds in making confidence in strengthening potential, and the effort to do something better will be symptomatic and consistent.

The self-reactions in this research are revealed through reflective journal, the student is assigned to

write a solute effort to improve the simulation process of integrated learning in the future. To reveal the process of students' self-regulation in integrated learning courses. Researchers designed a reflective journal format that will be used in a collaborative praxis simulation process. The reflective journal format can be seen in the table below:

Table 1: Reflective Journal of Self-Regulation Activities.

Num.	Indicator	Question or Instruction	Simulator Answer
1	Goal Setting	1. What do you want to achieve in this integrated learning simulation practice? 2. Try to describe the ideal learning situation that you are planning!	
2	Observation and Self-Assessment	1. List the 3 things you think need to be improved on your simulation performance! 2. Mention 3 things you have seen well in your simulation performance! 3. Have you succeeded in achieving the objectives that have been planned before? Please describe!	
3	Self-Attribution (positive cause)	1. Try to describe the cause of your deficiencies! 2. Please describe your success factor!	
4	Self-Reactions	1. Describe the strategic steps you	
	(Solution Efforts)	will take to improve the simulation practice in the future!	

4 CONCLUSION

This study presents an alternative lecture method by prioritizing the simulation practice as the basis of experiential learning, the simulation method in this research is accompanied by practical activities (reflection-action-transformative) which is done collaboratively between simulator, student, observer, and lecturer. The simulation-praxis-collaborative method can be a good practice alternative for integrated learning lectures. Guided by reflective journals, students are expected to be able to identify normative goals, reflect on their strengths and weaknesses, recognize and describe the attribution of successes and failures, and make solute attempts to improve the practice of integrated learning simulations. The study is still in the refinement of instructional design that has been validated by experts, hopefully by the end of 2017 the revision and refinement of learning methods can be solved well.

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REFERENCES

Alfiana, A., 2013. Regulasi Diri Mahasiswa Ditinjau Dari Keikutsertaan Dalam Organisasi Kemahasiswaan. *Jurnal Ilmu Pendidikan dan Psikologi Universitas Muhamadiyah Malang* Vol. 01, No.02, Agustus 2013.

Balzarotti, S., Gross, J. J., John, O. P., 2010. *An Italian adaptation of the emotion regulation.*

Boere, G., 2010. *Personality theories: melacak kepribadian anda bersama psikolog dunia.* Jogjakarta: Prismasarphie.

Carver, C. S., 2006. *Approach, avoidance, and the self-regulation of affect and action. Motivation,* 30, 105–110.

Cervone, Daniel, Lawrence, A. Pervin. 2012. *Kepribadian: teori dan penelitian.* Jakarta: Salemba Empat.

Cheng, E.C.K., 2011. The Role of Self-regulated Learning in Enhancing Learning Performance. *The International Journal of Research and Review* 6(1), 1 - 16

Conover, K., Daiute, C., 2017. The process of self-regulation in adolescents: A narrative approach. *Journal of Adolescence,* 57, 59-68.

de Fátima Goulão, M., Menedez, R. C. 2015. Learner autonomy and self-regulation in eLearning. *Procedia-Social and Behavioral Sciences*, 174, 1900-1907.

de Haan, L., Kuipers, E., Kuerten, Y., van Laar, M., Olivier, B., Verster, J. C. 2011. The RT-18: A new screening tool to assess young adult risk-taking behavior. *International Journal of General Medicine*, 4, 575–584.

Fakih, M. 2008. *Pendidikan Popular (Membangun Kesadaran Kritis).* Yogyakarata : INSITS Press.

Gall, M.D. et al. 2003. *Educational Research: an Introduction*. New York: Allyn and Bacon.

Hoffman, R. R., Ward, P., DiBello, L., Feltovich, P. J., Fiore, S. M., Andrews, D. 2014. *Accelerated expertise: Training for high proficiency in a complex world.* Boca Raton, FL: CRC Press.

Macejka, M., 2014. The role of grade level and locus of control in self- regulated learning strategies of college students. *Journal of Education, Psychology and Social Sciences,* 1(2), 1339 – 1488.

Mischel, W., 2014. *The marshmallow test: Mastering self control.* New York: Little, Brown and Company.

Nenkov, G. Y., Inman, J. J., Hulland, J., 2008. Considering the future: The conceptualization and measurement of elaboration on potential outcomes. *Journal of Consumer Research,* 35, 126–141.

Sanjaya, W., 2008. *Strategi Pembelajaran.* Jakarta: Kencana Pernada Media Group.

Schunk, L., 2008. *Learning Theory on Educational Perspevtive.* Yogyakarta: Pustaka Pelajar.

Steinberg, L., 2014. *The age of opportunity.* Boston: Houghton Mifflin Harcourt.

Sunaryo, 1989. *Metode-metode Pembelajaran.* Jakarta: Rineka Cipta.

Tough, P., 2012. *How children succeed: Grit, curiosity, and the hidden power of character*. New York: Mariner Books.

Warsono, Hariyanto., 2012. *Pembelajaran Aktif Teori dan Assesmen.* Bandung: Rosda.

Zimmerman, B. J., 2000. *Attaining self-regulation: A social cognitive perspective.* In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), Handbook of selfregulation (chap 2). San Diego, CA: Academic Press.