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# Self-Regulated Learning Strategy Training: Improving Self-Regulated Learning of First Year University Students

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Kata Kunci:
*mahasiswa tahun pertama;*
*self-regulated learning;*
*pelatihan strategi.*

Abstrak

Penelitian ini bertujuan untuk menguji efek dari pelatihan *self-regulated learning strategy* untuk meningkatkan *self-regulated learning* pada mahasiswa tahun pertama. Penelitian ini menggunakan desain *one group pretest-posttest*. Pemilihan partisipan di pelatihan ini didasarkan pada skor yang didapatkan mahasiswa tahun pertama pada *Self-Regulatory Strategies Scales* (SRSS). Partisipan pada pelatihan ini adalah sepuluh orang mahasiswa tahun pertama yang memiliki skor yang rendah pada skala SRSS. Penelitian ini menggunakan tiga alat ukur, yaitu tes pemahaman materi *self-regulated learning strategies*, SRSS, dan *self-regulated learning behaviour checklist*. Data partisipan pada tes pemahaman dan *self-regulated learning behaviour checklist* dianalisis menggunakan *paired-sample t-test*, sedangkan data SRSS dianalisis menggunakan *Wilcoxon signed-rank test*. Tes pemahaman memiliki *t-value* sama dengan 10,67, p sama dengan 0,000 (p kurang dari 0,05), *self-regulated learning behaviour checklist* memiliki *t-value* sama dengan 9,861, p sama dengan 0,000 (p kurang dari 0,05), dan SRSS memiliki nilai *Z-value* sama dengan -2,092, p sama dengan 0,036 (p kurang dari 0,05). Ketiga hasil tersebut menunjukkan bahwa ada perbedaan yang signifikan antara skor *pretest* dan *posttest* partisipan pada ketiga alat ukur. Nilai *posttest* partisipan meningkat dibandingkan nilai *pretest*. Dengan demikian, dapat disimpulkan bahwa pelatihan *self-regulated learning strategy* dapat meningkatkan *self-regulated learning* pada mahasiswa tahun pertama.

Keywords:
*first year students;*
*self-regulated learning;*
*strategy training.*

Abstract

The study aims to test the effects of self-regulated learning strategy training to improve the self-regulated learning of first-year students. The study used one group pretest-posttest design and the participants in this training are selected based on their scores on the Self-Regulatory Strategies Scale (SRSS). Participants in this training were ten first-year students who had low scores on SRSS. The study used three instruments: the test of knowledge about self-regulated learning strategies, SRSS, and self-regulated learning behaviour checklists. Participants' data on the test of knowledge and self-regulated learning behaviour checklist was analyzed using a paired-sample t-test while SRSS data was analyzed using Wilcoxon signed-rank test. The test of knowledge has t-value equal to 10.67, p equal to 0.000 (p is less than 0.05), the self-regulated learning behaviour checklist has t-value equal to 9,861, p equal to 0.000 (p is less than 0.05), and the SRSS has Z-value equal to -2,092, p equal to 0.036 (p is less than 0.05). All three results showed that there was a significant difference between the participants' pretest and posttest scores on all three measuring instruments. The participants' posttest increased compared to the pretest. Thus, it can be concluded that self-regulated learning strategy training can improve self-regulated learning in first-year students.

## INTRODUCTION

First year students often experience problems because the first year in universities is a transition period for individuals from high school students to students (Krasilnikov & Smirnova, 2017; Kreniske, 2017; Santrock, 2018). Most of the first year students will face challenges in academic tasks that are more difficult than academic tasks during their high school period (De Wever et al., 2015; Fouché et al., 2017; Santrock, 2018). It is because learning situations in universities require more independence rather than in high school (Cazan, 2013; Krasilnikov & Smirnova, 2017). A survey conducted by The University of California, Los Angeles, in 2014 with 10,170 participants mentioned that 52.2% of students had problems towards academic demands and 61.5% of students were unable to manage time effectively (Higher Education Research Institute, 2014). Cazan (2012) also mentioned that first year students tend to have adjustment problem with their studies. Most of the first year students have difficulties in making plans to study according to their course (van Den Hurk, 2006). First year students often have academic problems because of poor academic adjustment (De Wever et al., 2015; Kreniske, 2017).

Research conducted by Simanjuntak (2016) on 170 students showed that self-regulated learning was a problem experienced by some students. Based on that research, there were 20% of students find it difficult to do time management and 11% of students feel lazy to study. Those results were related to the aspects of self-regulated learning of the students (Simanjuntak, 2016). In addition, research conducted by Febriana & Simanjuntak (2021) on 134 students showed that 46% of students had difficulty in time management and 10% of students had low learning motivation. Those kinds of difficulties were also related to the aspects of self-regulated learning, namely effort regulation and motivation regulation (Febriana & Simanjuntak, 2021). Most of the academic problems of university students occur in the first year of their studies (Danitz et al., 2016; Gunnell et al., 2017; Paterson, 2017). Completing academic tasks are often challenging for first year students because they have to adjust to academic situations (De Wever et al., 2015; Fouché et al., 2017). Those kind of problems are related to first year students' self-regulated learning (Cazan, 2012; Kitsantas, 2013).

Self-regulated learning discusses how students direct their cognition, affection and behaviour towards learning goals (Schunk, 2012; Schunk & Zimmerman, 2011). Students should create their own learning goals and monitor their actions in order to achieve those goals. Researchers in area of education state that self-regulated learning as one of the important factors that affect academic performance of university students (Abar & Loken, 2010; Pintrich, 2004; Puzziferro, 2008; Zhu et al., 2016). A research with 280 first year students conducted by Cazan (2012) mentioned that academic adjustment of first year students related with their self-regulated learning. High self-regulated learning students are actively create strategies that enables them to achieve their learning goals compared to low self-regulated learning students. High self-regulated learning students tend to be flexible to create strategies that enable them to adjust with their learning environment to overcome learning challenges (Cazan, 2012; Lee & Tsai, 2011; Santrock, 2011). High self-regulated learning students also encourage to follow the course more on intrinsic motivation such as gaining knowledge of the course (Littlejohn et al., 2016). On the contrary, low self-regulated learning students tend to focus on extrinsic motivation in the class and more focus to get the certificate rather than understanding the course material (Littlejohn et al., 2016). A study conducted by Peng (2012) with first year Science students proved that students who apply self-regulated learning strategies, such as reading their notes outside the classrooms, making a list of important things to do for their study, and

using various sources of literature, will have better academic achievement than students who do not have self-regulated learning strategies.

Self-regulated learning contains four steps, which are self monitoring, goal setting and strategic planning, strategy implementation and strategy outcome monitoring (Schunk, 2012; Schunk & Zimmerman, 2011; Zimmerman et al., 1996). The first step is self-monitoring, that is self evaluation regarding students' studying behaviour and students' also try to find possible solutions for their academic problems. Students' also do self-reflection by doing self-assesment on their learning behaviour. The second step is goal setting and strategic planning in which discuss about formulating new goals in learning and determine the right strategy to achieve these goals. In this section, students also do an analysis of the learning tasks they have and draw up a plan to achieve the learning objectives. The third step is students' strategy implementation towards learning strategies. In this step, students will implement the strategies that they have designed in the second step to achieve their learning goals. The fourth step is strategic outcome monitoring in which students will evaluate the results and adjust their actions based on the consequences they receive during strategy implementation. In this section, students will assess how effective their strategy to achieve their learning goals (Schunk, 2012; Schunk & Zimmerman, 2011). Students can give self reinforcement if they achieve their targets or goals that they set in the second step. Self-reinforcement is defined as giving rewards or reinforcement for oneself after completing planned learning activities (Kratochwill et al., 1999). Forms of self-reinforcement are encouragement and praise oneself when learning targets have been met or do activities that are fun for oneself (Kratochwill et al., 1999).

Researches shows that self-regulated learning strategy training can help students to regulate themselves so that they can achieve their learning goals (Cazan, 2013; Cho & Cho, 2013; Kristiyani, 2008; Maulia, 2011; Priyambodo, 2015). Schunk & Zimmerman, (2011) mentioned that self-regulated learning is something that can be learned like other skills. Instructors can teach self-regulated learning strategy when delivering course material in class. Students can have feedback from their instructors towards their action to improve their self-regulated learning (Schunk, 2012). Peers with good self-regulated learning can be model for other students in the course so that students will motivate to improve their self-regulated learning (Schunk, 2012; Schunk & Zimmerman, 2011).

Research conducted by van Den Hurk (2006) described that most of the first year students do not have self-regulated learning strategies. First year students do not understand strategies that they can use to achieve their learning goals (Cazan, 2013; Maulia, 2011; Salamonson et al., 2016). Regarding the academic tasks, first year students can not choose appropriate reading materials that can support their academic tasks (Cazan, 2013). This condition will affect their preparation in learning and influence their academic performance (Najdanovic-Visak, 2017; Simanjuntak, 2015; van Den Hurk, 2006). Students with high self-regulated learning perform better in class compared to students with low self-regulated learning (Dörrenbächer & Perels, 2016; Kitsantas et al., 2008; Santrock, 2018).

Cazan (2013) mentioned that first year students should be trained to have better understanding of self-regulated learning strategy. First year students tend to have academic adjustment problems with university learning demands compare to their high school learning demands (Cazan, 2013; Kreniske, 2017; Santrock, 2018). It is because their problem is due to the transition from high school to university level (Cazan, 2013; Krasilnikov & Smirnova, 2017; Santrock, 2018). Therefore, self-regulated learning training should be conducted for the first year students to improve their self-regulated learning. Self-regulated learning training will help students to enhance their self-regulated learning

(Cho & Cho, 2013; Maulia, 2011; Peng, 2012; Priyambodo, 2015). Previous researches in Indonesia show that self-regulated learning skill is a problem experienced by students at universities which is manifested in the form of student difficulties in managing time, feeling lazy to study, and low motivation to learn (Febriana & Simanjuntak, 2021; Simanjuntak, 2016). Based on this, the research question proposed in this study is, "Does self-regulated learning strategy training improve self-regulated learning for first-year students?" The current study aims to examine the effectiveness of self-regulated learning strategy training for first year university students in order to improve self-regulated learning of the students.

## METHODS

### Participants

Participants in this study are first year students in the Faculty of Psychology Widya Mandala Catholic University Surabaya (N = 10). There are five male participants and five female participants, age ranged from 17–19 years old. The participants are selected by their scores in Self-Regulatory Strategies Scale (SRSS). At first, there are 69 first year Psychology students who filled SRSS. Then, ten students who score low in SRSS are selected to be the participants. Participants join the self-regulation strategy training voluntarily and they filled informed consent before participating the training. Research in the Faculty of Psychology at Widya Mandala Catholic University Surabaya shows that self-regulated learning skill is one of the challenges faced by students in doing academic tasks (Simanjuntak, 2016).

### Procedure

This study applies one group pretest-posttest experimental design. This experimental design aims to compare the pretest and posttest scores of the participants after the participants received the treatment given by the researcher. Treatment are applied for all participants by giving self-regulated learning strategy training for five sessions. Method of training are lectures, group discussion, video discussion, case study and individual project planning. After the training, participants are required to do strategies that they had planned during the session for two weeks and behaviour check list is administered to see the effect of self-regulated learning training to the participants' self-regulated learning behaviour.

Training materials were developed based on four steps of self-regulated learning strategy by Zimmerman et al. (1996) including self monitoring, goal setting and strategic planning, self-regulated learning strategy implementation, and strategy outcome monitoring. All of the training materials have been evaluated from three expert reviewers in the field of education and psychology. There are five sessions for this training and the training materials can be described below:

1. Introduction of self-regulated learning.
    a. Making participants understand the objectives of the training and the benefits of the training.
    b. Establish participants' commitment to attend the training and work on the assignments.
    c. Teaching participants the basic concept of self-regulated learning for their studies. Instructor gives the characteristic of self-regulated students and asking participants to compare their studying behaviour with the characteristic of self-regulated students.
    d. Teaching participants four steps of self-regulated learning for their studies.
2. Self-regulated learning strategy cycles.
    a. *Self-monitoring*: Understanding the use of self-monitoring as part of self-regulated learning. Participants will evaluate their recent studying behaviour and trying to write steps for self-monitoring for their future studying behaviour.
    b. *Goal setting & strategic planning*: Understanding goal setting and strategic planning as the second step for doing self-regulated learning. In this session, participants do SMART (Specific, Mea-

sureable, Attainable, Realistic and Time) assesment for themselves. Participants also try to set their own goals based on SMART assesment. Participants create strategy to achieve their SMART goals. Goals are divided in three kinds of goals: short-term goals, medium-term goals, and long-term goals.

c. *Strategy implementation*: Understanding strategy implementation as the third step in self-regulated learning strategy. Participants try to set their self-reinforcement if they are success to achieve their goals.
d. *Strategic outcome monitoring*: Participants will evaluate the effectiveness of their strategy in achieving their goals. They design some steps to monitor their strategic and the quality of the outcome after applying the strategy.

3. Implementation of self-regulated learning strategy.
   a. Participants make study plan and applying the steps in self-regulated learning strategy for their study plan.
   b. Participants evaluate the implementation of the study plan and redesign their strategy if they face some obstacles during applying their study plan.

**Instruments**

Participants' scores will be compared based on pretest and posttest in the research instruments. There are three instruments used in this study:

1. The test of knowledge about self-regulated learning strategies in order to measure participants' knowledge before and after the training. Test of self-regulated learning knowledge is a multiple choice test with four options, examples of items, "What is the definition of self-regulated learning?" and "What is the first step to do self-regulated learning?". The test of participants' knowledge in self-regulated learning has fourteen items with items' discriminant values ranging from 0.2–0.4. The validity of this study is content validity, based on the reviews of two Psychology lecturers who understand the concept of self-regulated learning in the context of university students. Reliability test for the test of knowledge using Cronbach's alpha (α) = 0.613.
2. The self-regulated learning strategy scale or Self Regulatory Strategies Scale (SRSS) for measuring participants' attitudes toward self-regulated learning issues. Each of self-regulatory strategy scale item has five options range from strongly agree, agree, neutral, disagree, and strongly disagree, examples of items, "I have a study plan to achieve my learning targets" and "I will look for course references other than those given by my lectures in order to understand difficult course materials". SRSS consists of 25 items including seven aspects, motivation regulation, planning, effort regulation, attention focusing, task strategies, using additional resources, and self instruction. Validity test is using content validity with reviews from two Psychology lecturers who are experts in educational psychology. Corrected total item correlation is also used to assure that all the items are valid. The value of corrected total item correlation ranging from 0.29–0.63. Cronbach's alpha (α) for SRSS = 0.887.
3. The self-regulated learning behaviour checklist were applied in order to describe participants' learning behaviour after receiving self-regulated learning training. The behaviour checklist consists of 28 items with three options range from always, sometimes and never. Examples of items, such as "I encourage myself when I have difficulties in doing the study plan that has been designed by myself" and "I give appreciation to myself when my learning plan can be achieved". Behaviour checklist scores are gathered from self report of the participants and one significant other of each participant such as participants' friends and family to see the effect of training to their self-regulated

learning behaviour. Behaviour checklist items were reviewed by two Psychology lecturers who assess knowledge and SRSS scale. Content validity is applied to the behaviour checklist. The behaviour checklist is administered after two weeks from the last training sessions in order to see the consistency of self-regulated learning behaviour of the participants. Cronbach's alpha (α) of the behaviour checklist = 0.777.

Participants are given those three instruments before the beginning of the training (pretest) and after the training (posttest). As in the evaluation of training materials, all of research instruments have been also evaluated by three expert judges in the field of psychology and education.

The data were analyzed using a paired-sample t-test for the three measuring instruments, namely the self-regulated learning knowledge, SRSS, and the self-regulated learning behavior check-list with SPSS for Windows.

## RESULTS

The data met the criteria for the normality test and the homogeneity of variance test so that it can be continued with the paired sample t-test to test the difference in the pretest scores and post-test scores of the participants. Result shows that there are significant differences in three aspect of knowledge, attitude, and behaviour of self-regulated learning. Table 1 describes the results of participants' score in self-regulated learning knowledge, SRSS, and self-regulated learning behaviour check list.

Table 1.
Results of Participants' Score in Self-Regulated Learning

| Aspect | Condition | M | SD |
|---|---|---|---|
| Self-regulated learning strategy knowledge | Pretest | 4.20 | 2.44 |
| | Posttest | 11.50 | 1.65 |
| Self-regulated learning strategy scale (SRSS) | Pretest | 69.40 | 2.95 |
| | Posttest | 77.40 | 8.79 |
| Self-regulated learning behaviour checklist | Pretest | 34.40 | 8.42 |
| | Posttest | 62.10 | 12.34 |

Normality test using Kolmogorov-Smirnov show that significance value for each data is p = 0.20 (knowledge); p = 0.01 (SRSS); and p = 0.20 (behaviour checklist). The significance value of the normality test for knowledge and behaviour checklist met the normality assumptions because the significance are above 0.05. Levene's test of homogeneity of variance is also applied for those data. The results of Levene's test show that p = 0.38 (knowledge); p = 0.009 (SRSS); and p = 0.424 (behaviour checklist). The results of Levene's test describe that data of knowledge and behaviour checklist are met the standard of homogeneity of variance because p value is higher than 0.05. For the SRSS, data did not meet the standard of normality and homogeneity of variance. In that case paired-sample t-test are applied for knowledge data and behaviour check list data. Wilcoxon signed rank test is used to analyzed the self-regulated learning strategy scale data.

The results show that participants' mean increased in every aspect of the instruments. Self-regulated learning knowledge shows t-value = 10.67, p = 0.000 ($p < 0.05$) and it means that there is a significant difference between pretest and posttest in the knowledge aspect. Regarding the self-regulated learning strategy scale shows Z-value = -2.092, p = 0.036 ($p < 0.05$) which means that there is a significant difference between pretest and posttest in attitude aspect. Self-regulated learning behaviour checklist also shows that significant difference is found between pretest and posttest in the aspect of self-

regulated learning skill (t-value = 9.861, p = 0.000 (p < 0.05). Figure 1 shows the increasing score of participants' knowledge of self-regulated learning after receving the training.

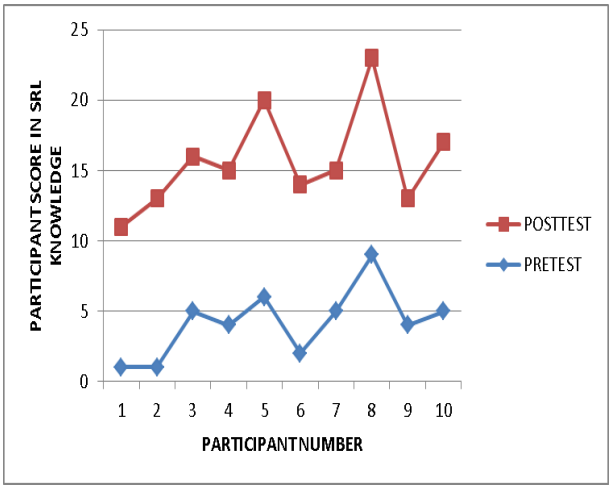


Figure 1.
Participants Score in Self-Regulated Learning Strategy Knowledge

Refer to the participants' score in self-regulatory strategies scale, figure 2 shows that increasing score of participants are also found in the posttest session.

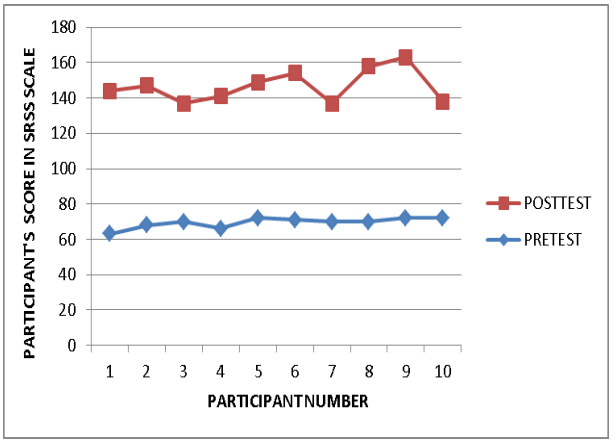


Figure 2.
Participants Score in Self-Regulatory Strategies Scale

Figure 3 describes the increasing score of participants in the aspect of self-regulated learning behaviour checklist. Participants score in the behaviour checklist is significant increasing after receiving the training. It means that all participants applied their knowledge into self-regulated learning behaviour after the training. Participants behaviour in self-regulated learning are also confirmed by their significant other regarding the increasing score of behaviour checklist in the posttest session.

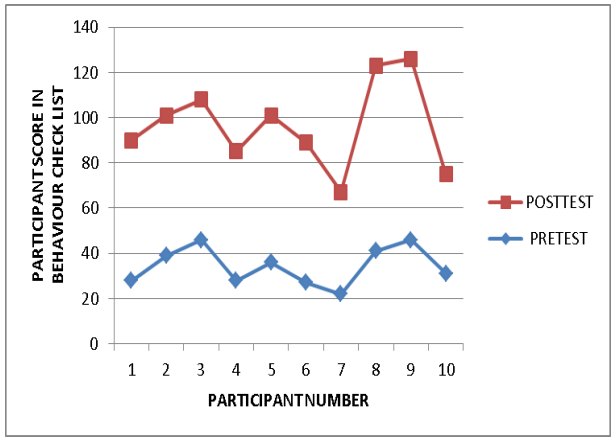


Figure 3.
Participants Score in Self-Regulated Learning Behaviour Checklist

Based on the result presented above, it can be concluded that there are significant differences of participants scores between pretest and posttest in the area of knowledge, attitude, and skill of self-regulated learning strategy. In order to get data about the participants study habits, some interviews are conducted with the participants' significant others before and after the training. Sample of interview results are presented in table 2.

Table 2.
Sample of Interview Results of Participants Study Habits
Before and After the Training

| Participants | Before training | After training |
|---|---|---|
| Student 1 | "She never make study plan. If there are assignments, she tend to procrastinate her assignments." | "She start making study plan. Yesterday she studies Statistic quite long and try encourage herself when she did not understand the course materials." |
| Student 2 | "Study is not his priority, he only studies during tests such as mid-test or end-test." | "After the training, he made some study plan but he only applies some of his plans. Some study plans during the training are still not done yet." |
| Student 3 | "She does not have any strategies of study, she just study from her lecturers' slides or her friends' notes." | "She start to summarize from her lectures's slides during her study." |
| Student 4 | "If she is in a bad mood, she tend not study." | "She tries to look for solutions to deal with her bad mood. She also contacts her friends to discuss her difficulties in studying." |
| Student 5 | "She studies before the exams, she also likes studying while browsing with her gadget and finally she does chatting with friends using her gadget." | "After that training, she tries to put off her gadget during her study. She puts her cellphone in the drawer." |
| Student 6 | "He does not have study plan and never encourage himself to do his study plan." | "He makes study reminder in his cellphone and asks his friends to remind him also through his social media." |
| Student 7 | "He studies spontaneously so he does not have any plan for his study." | "He asks his friends to help him with his study problems. He is auditory learner and not visual learner so he prefers to listen to his friends' explanation rather than reading the books by himself." |
| Student 8 | "He does not have any study plan or strategy. If he has study problems, he will asks his friends for solutions." | "He reads his books, made some important highlights especially for some difficult terms." |
| Student 9 | "She does not make any plan for study. If she wants to study then she study if not then she does not study. She is not a study planner type." | "She starts to make study schedules such as course material reviews like Statistic course. She also asked to study together in order to complete her study plan." |

| Participants | Before training | After training |
|---|---|---|
| Student 10 | "He does not have any strategic plan for studying. He also does not have any strategy to do his assignments." | "He tries to apply some study strategy such as moving his seat to the front or near some friends who understand the course material better. He also asks his friends if he does not understand his course materials." |

Findings in this study shows that the self-regulated learning strategy training can improve participants self-regulated learning. Participants also apply the knowledge they received during training into behaviour of self-regulated learning for the sake of their studies.

## DISCUSSION

Based on the results, self-regulated learning strategies training can improve self-regulated learning of participants. This finding supports previous researches that self-regulated learning strategy training are suitable for undergradute students so that they can regulate their studies (Cazan, 2013; Cho & Cho, 2013; Kristiyani, 2008; Maulia, 2011; Priyambodo, 2015; Zimmerman et al., 1996). This current research also supports Schunk & Zimmerman (2011) that students who have difficulties in understanding reading materials can be trained in self-regulated learning technique in order to improve their self-regulated learning. Students are trained to regulate their knowledge, attitude, and skill in self-regulated learning so that they can regulate themselves to achieve their study goals (Cazan, 2013; Schunk, 2012; Schunk & Zimmerman, 2011). The findings in this study also confirm that self-regulated learning as one of the important factors in learning situation (Cazan, 2013; Cho & Cho, 2013; Kitsantas, 2013; Santrock, 2011; Schunk, 2012; Schunk & Zimmerman, 2011; van Den Hurk, 2006).

First year students should be taught some strategies in self-regulated learning because those strategies will help them to strengthen their self-regulated learning (Cazan, 2012; Cho & Cho, 2013; Salamonson et al., 2016). Finding in this study can be used as evidence that self-regulated learning should be trained continously in accordance to the educational level (Cazan, 2013). Most of first year students do not have skills for self-regulated learning because first year is the period of adaptation to university academic life (Krasilnikov & Smirnova, 2017; Kreniske, 2017). Students do not become self-regulated learners automatically without training from the learning environment (Cazan, 2012; Cho & Cho, 2013; Schunk & Zimmerman, 2011).

The results of this study support research conducted by Cazan (2013) who provides self-regulated learning training for first year students at the University of Braşov, Transylvania, and Cho & Cho (2013) who also provides self-regulated learning training for first year students at Midwestern University. Those studies show that teaching self-regulated learning strategy techniques to first-year students is proven to be able to improve self-regulated learning for students (Cazan, 2013; Cho & Cho, 2013). Most students, especially first year students, do not have the skills of self-regulated learning to undergo their studies because the first year is a period of adjustment to campus life (Krasilnikov & Smirnova, 2017; Kreniske, 2017; Salamonson et al., 2016; van Den Hurk, 2006). Therefore, first year students are recommended to get self-regulated learning training during their studies (Cho & Cho, 2013; van Den Hurk, 2006). Furthermore, training can include some tools such as ICT and websites to teach self-regulated learning for students (Bellhäuser et al., 2016; Bergamin et al., 2011). A study by Bellhäuser et al. (2016) with 211 university students proved that web-based training (WBT) can improve the

participants' competency in self-regulated learning. Participants of the WBT group show more positive self-regulated learning and behaviour compare to the control group. Another study also proved that online collaborative learning also can be an option to teach self-regulated learning for university students (Bergamin et al., 2011). These studies supports the finding in this current research that sel-regulated learning can be trained for students with different kinds of methods.

Regarding the knowledge aspect, participants score in self-regulated learning knowledge are increased after receiving the training. Participants are able to understand basic knowledge of self-regulated learning and understand strategies that they can use in their academic tasks. All participants in this study agreed that they do not have sufficient knowledge about self-regulated learning strategy so that they were not able to behave as self-regulated learners during their studies. It is in line with research by Cho & Cho (2013) and Dörrenbächer & Perels (2016) that self-regulated learning skills are also applied for learning social network system. Cazan (2013) mentioned that psychology students should attend self-regulated learning training and they will be able to understand self-regulated learning strategy such as reflection and literature reading. Another study by De Wever et al. (2015) mentioned that self-regulated learning training can improve students' writing for academic tasks. Those previous researches as well as this current study proved that participants' knowledge of self-regulated learning increased after receiving the training. Therefore, self-regulated learning strategy training are needed to improve the academic skills to finish their study tasks.

Based on the participants' attitude in self-regulatory strategies scale, it proved that participants have more positive attitude to apply the self-regulated learning strategy after the training. At first, most of the participants admitted that they did not like to do planning. However, after receiving explanation about strategy to create planning, participants tried to apply the planning they have designed for their studies. During sharing session, all of the participants mentioned that some of their plans were success and it created positive attitude towards their self-regulated learning. This result is consistent with previous researches that teaching self-regulated learning strategy will make students eager to apply self-regulated learning for their studies and it also represents students positive attitude towards self-regulated learning strategy (Cazan, 2013; Schunk, 2012; Schunk & Zimmerman, 2011; Zimmerman et al., 1996).

Results in this study also proved that increasing in self-regulated learning knowledge is followed by increasing in self-regulated learning behavioural check list score. Refer to this result, it can be concluded that students who have better understanding in self-regulated learning tend to apply the self-regulated learning strategies in their academic settings (Cazan, 2013; Schunk & Zimmerman, 2011). Participants are asked to make some planning for studying and consider some strategies to do the planning. At the beginning, participants thought that implementing study planning will faced some challenges. On average, participants did 30% of their study plan and it is explained by Zimmerman et al. (1996) that implement self-regulated learning strategies is one of the hardest part in self-regulated learning training. However before the training, most of the participants do not have study planning but they managed to create studying planning during the training and tried to implement the planning after the training. After two weeks of training, some participants reported some benefits following the training such as more focus and more enthusiastic in studying. Another participants also reported that they did not feel any significant changes after doing the planning. However, all participants reported that they have to deal with problems such as mood and surrounding environments when they tried to apply the studying planning. Peng (2012) mentioned that students who apply self-regulated learning

strategy feel the benefits when they apply the strategy in their study. On the other side, there are some participants that did not feel any significant changes and it is in accordance with previous research by Nandagopal & Ericsson (2012) that there are some individual differences in self-regulated learning. Differences in participants condition after training could be explained as the part of individual differences in reaction.

There are some limitation in this study that should be considered for further researches. First, the experiment does not include control group which could enrich the findings because limitation number of students who are willing voluntarily to follow the training. Control group should be also included in the next study to get more data variation. Second, there were not any control variables, such as demographic variables (age, gender, participants' resident condition) or internal variables such as motivation, personality that may affect the result of the experimental process. Behaviour checklist is done by the participants and there are some limitations to see the actual action of self-regulated learning activities of the participants.

## CONCLUSION

Results in this study show that self-regulated learning of the participants as first year students increases after the participants attended self-regulated learning strategy training. Participants show improvement in the aspect of knowledge, attitude and behaviour of self-regulated learning towards their study in the university. Some limitation in this study should be considered for further research, such as control group in the experimental process, control intervening variables such as gender, age, and motivation. Based on the result of this study, self-regulated learning strategy training for first year students should be conducted by the university to improve self-regulated learning of the first year students.

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