Self-Regulated Learning Intervention Program for Underachieving College Students

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ABSTRACT

Underachievement describes a situation when someone does not achieve his or her full potential. It has been considered as a substantial problem in the field of education and has been investigated for decades. In college, underachievement occurs because students are either unprepared or do not meet the expected standards. A study found that the cause of underachievement is lack of self-regulated learning skills. Researchers designed an intervention program based on the self-regulated learning theory to overcome underachievement, with this study therefore aiming to examine the effectiveness of this self-regulated learning intervention program designed for underachieving college students. The program focuses on improving the self-regulated learning ability by equipping participants with goal setting and time management skills, increasing motivation, and promoting a sense of control and motivation. Therefore, a 21-year-old male college student in his final year participated in this study. The participant completed the self-regulated learning questionnaire, social reaction inventory, and self-motivation questionnaire at pre- and post-intervention. Results showed that the self-regulated learning ability score is increasing from the average to good category, whereas the external locus of control score is decreasing from the high to low category. Conversely, the internal locus of control score is increasing from the average to high category. However, no differences were observed between self-motivation scores at post-intervention.

Keywords: Locus of Control, Motivation, Self-Regulated Learning, Underachiever.

1. INTRODUCTION

Underachievement describes a condition when someone does not live up to his or her full potential (Levesque, 2018). Reis and McCoach (2000) defined underachievers as students who exhibit severe discrepancy between the expected and actual achievement. Results of the diagnosed learning disability that persists over an extended period of time are used to define underachievers. Based on various previous studies, McCoach and Siegle (2018) summarized the following characteristics associated with underachievers: low academic self-perceptions; low motivation; low self-efficacy; low goal valuation; and low self-regulatory or metacognitive skills.

Underachievement is experienced by students from every educational level. In college, it occurs because students are either underprepared or do not reach the expected standards (Bailey, Hughes, &Karp 2003; Nelson, 1998 as cited in Balduf, 2009). Cukbucu (2009) believed that the major cause of learning failure is

the lack of self-regulation. In terms of self-regulatory processes, underachievers are more impulsive, set lower academic goals, monitor their learning less accurately, are more self-critical and less self-efficacious, and tend to give up more easily than achievers (Borkowski & Thorpe, 1994, as cited in Zimmerman & Risemberg, 1997).

Self-regulated learning refers to self-generated thoughts, feelings, and actions to affect one's learning and motivation (Schunk & Ertmer, 2000), which are planned and systematically adapted as needed. Students who self-regulate their learning are metacognitively, motivationally, and behaviorally active in their own learning (Zimmerman, 1986 as cited in Zimmerman, 1990). In other words, Effeney, Carroll, and Bahr (2013) summarized that self-regulated learners can also shift learning approaches flexibly, monitor their learning, seek feedback on their performance, and make appropriate adjustments for future learning activities, while actively setting goals, deciding on appropriate strategies, planning their time, and organizing and prioritizing materials and information.

Zimmerman (2000) developed a cyclical model of self-regulation from the social–cognitive perspective. This model consists of three phases: forethought; performance; and self-reflection. Forethoughts are influential processes that precede efforts to act and set stages. They include goal setting and strategic planning. Goal setting refers to deciding on specific learning outcomes (Locke & Latham, 1990, as cited in Zimmerman, 2000). Strategic planning involves selecting or creating a strategy to optimize one's performance (Zimmerman, 2000). Time management refers to a strategic process

that promotes achievement of important goals and success within personal, professional, and academic contexts (Claessens et al., 2007), and, considering time as a crucial aspect of planning and regulating (Eilam & Aharon, 2003), one should determine a time management strategy. Overall, this phase depends on self-motivational beliefs, comprising self-efficacy, outcome expectations, intrinsic interest, and goal orientation (Zimmerman & Kitsantas, 2005)

Performance involves processes occurring during motoric efforts and affecting attention and action (Zimmerman, 2000). The performance process has two major processes: self-control and self-observation. Self-control processes help to guide learning a skill and include subprocesses, such as self-instruction, imagery, attention focusing, or task strategies (Cleary & Zimmerman, 2004). Self-observation refers to tracking specific aspects of one's performance, associated surrounding condition, and produced effects (Zimmerman & Paulsen, 1995, as cited in Zimmerman, 2000).

Self-reflection involves processes occurring after performance efforts and influences a person's response to that experience (Zimmerman, 2000). This phase consists of self-judgment and self-reaction. Self-judgment involves self-evaluating one's performance and attributing causal significance to the result. Self-reaction involves the satisfaction level and adaptive/defensive inference. As this is a cyclical model, the self-reflection phase will influence the forethought phase regarding subsequent efforts. For example, a poor score in uncontrollable variables, such as the fixed ability (self-reflection phase), can be extremely damaging

motivationally and diminish one's subsequent effort (forethought phase) (Zimmerman, 2002).

From planning an academic task to persistence while facing frustrations, self-regulated learning encompasses many strongest academic achievement predictors (Dent & Koenka, 2015). Several findings have showed that self-regulated learning is a predictor of academic performance in many educational levels, and therefore teaching underachievers how to self-regulate their learning would help them improve their academic achievement (Abu Bakar, Shuaibu, & Abu Bakar, 2017; Alotaibi, Thomaz, & Jabak, 2017; Daniel, Wang, & Berthelsen, 2016; Dent & Koenka, 2015). However, the causes of underachievement should be identified because each underachiever may have a unique combination of reasons (McCoach & Siegle, 2018).

This study is conducted to investigate the effectiveness of the self-regulated learning intervention program for an underachiever college student. Several factors contributed to his situation: low motivation; no learning plan and schedule; and no sense of control over his academic achievement. If these factors are linked to the self-regulated process, his forethought phase is not optimized due to the negative feedback in the self-reflection phase. Considering his current situation, this study focuses on his forethought and self-reflection phases.

This study also focuses on improving his motivation, equipping him with goal setting and time management skills. As this participant has already built a negative judgment of himself, his personal judgment should be reversed by increasing

his sense of control. We therefore also focus on increasing his sense of control or internal locus of control. Due to their belief of having control over their learning and development, students with high internal locus of control tend to show advantages in their academic performance as compared to students with high external locus of control (Albert & Dahling, 2016). These students also rarely engage in academic procrastination and have higher academic achievement (Carden, Bryant, & Moss, 2004 as cited in Bourne, 2018).

Knowing the advantages of the internal locus of control, motivation, self-regulated learning including goal setting, and time management, researchers designed an intervention program to help the participant overcome his problem. The program focused on improving his internal locus of control, motivation, goal setting, and time management skills that allow him to achieve his optimum academic performance.

2. METHODS

2.1. Participants

A 21-year old (final year) male college student was recruited by employing purposive sampling for this study. During the initial assessment, the participant's IQ was 143 (based on the Tes Inteligensi Dewasa Indonesia scale). This scale was developed based on Weschler's theory. During the pre-intervention, researchers conducted the psychological assessment of the participant. Then, the obtained information was analyzed. Based on these results, we concluded that he is an underachiever and identified three main factors that contributed to his condition. These factors included lack of self-regulated learning ability (goal setting and

time management), dominance external locus of control, and low motivation to engage in this study.

2.2. Ethics

Before conducting the study, the participant provided his written informed consent. The participant was also informed that he could withdraw from the study without receiving negative consequences.

2.3. Study Design

This is a single-case experimental designed study, specifically having an A–B–A design consisting of three phases: the baseline phase (A); treatment phase (B); and measuring baseline phase after the treatment withdrawal (A) (Lodico, Spaulding, & Voegtle, 2006). A pre-test was administered at pre-intervention and a post-test thereafter. In order to identify a meaningful change in self-regulated learning ability, locus of control, and motivation in this program or to analyze the data, researchers used the visual inspection method. This is a tailor-made intervention program that consisted four phases, created based on Kolb's learning cycle (2014): concrete experience; abstract conceptualization; reflective observation; and active experimentation. Researchers chose this approach because it provided opportunity for the participant to experience the activity, draw insight from the activity, and practice what he was thinking.

2.4. Intervention Module

Each session in this program applied the Kolb's learning cycle, except session 2.

2.4.1. Session 1: Taking Control

The first session aimed to increase participant's perception of control over his academic achievement.

- Concrete experience phase: Instrumentation or the participant was asked to complete a questionnaire to assess his dominance on locus of control.
- Reflective observation phase: We discussed the results and related them to the participant's academic life;
- Abstract conceptualization phase: The researcher delivered the theory about locus of control and how it affects his academic achievement;
- Active experimentation phase: The participant was instructed to provide solutions for his academic problem in order to increase his sense of control.

The researcher ended this session with self-reflection from the participant.

2.4.2. Session 2: I am Here for a Reason

The second session aimed to increase his intrinsic motivation to face his academic life.

- Concrete experience phase: The participant was asked to list his motivation during college. Then, he was asked to classify these motivations into two categories: "Must" (demand) and "Want" (desire);
- Reflective observation phase: We discussed the classification result and related it to participant's academic life;
- Abstract conceptualization phase: The researcher delivered the theory

about motivation and how it affected his academic achievement.

This session was ended by asking the participant to do self-reflection.

2.4.3. Session 3: Optimize My Time

The third session aimed to teach the participant the ability to manage time effectively.

- Concrete experience phase: The participant was asked to list his daily activities. Then, he was asked to classify his activities into four quadrants in the Matrix Covey Time Management;
- Reflective observation phase: We discussed his classification result and related it to his academic life;
- Abstract conceptualization phase: The researcher delivered theory about time management and how to manage time effectively using the Matrix Covey Time Management;
- Active experimentation phase: The participant was asked to revise his previous classification of activities at the concrete experience phase. He revised his activities based on the theory that had been taught during the abstract conceptualization phase.

This session was terminated by asking him to perform self-reflection.

2.4.4. Session 4: Set My Goal

The fourth session aimed to teach him the ability to set the smart, measurable, achievable, relevant, and timely (SMART) goal.

- Concrete experience phase: The participant was provided with two scenarios regarding goal setting and was asked to identify the difference between them;
- Reflective observation phase: We discussed these scenarios and related them with his academic life. Before giving the theory, the researcher asked him to write down his academic goal;
- Abstract conceptualization phase: The researcher delivered the goal setting theory and SMART goal;
- Active experimentation phase: The participant was asked to revise his goal based on the SMART criteria.

Then, we continued with the action plan to reach his goal.

2.5. Measurements

This study used three questionnaires: self-regulated learning questionnaire; social reaction inventory; and self-motivation questionnaire as pre- and post-tests. The post-test was assessed a week after the intervention.

2.5.1. Self-Regulated Learning Questionnaire

The self-regulated learning questionnaire was constructed by Arumsari (2016), consisting of 38 items using the five-point Likert-type scale where 1 is never and 5 is very often. This questionnaire was constructed based on a self-regulated learning theory by Zimmerman. The total score indicates participant's self-regulated learning ability: a higher score indicates a higher self-regulated learning ability. The reliability of the self-regulated learning questionnaire is 0,864. This questionnaire is used to measure goal setting and time management skills.

2.5.2. Social Reaction Inventory

Social reaction inventory consists of 29 items. However, for this research, only 22 items were used to measure the participant's locus of control. Each item consists of two options to be chosen by the participant. Two options on each item represent internal and external loci of control.

2.5.3. Self-Motivation Questionnaire

Self-motivation questionnaire consists of eight items (Downing, 2010). To measure the participant's motivation regarding his academic achievement, this questionnaire used a 10-point Likert-type scale where 1 indicates totally false and 10 indicates totally true.

3. RESULTS

The pre-test score gained by the participant was 119, indicating the moderate category. At post-treatment, the post-test score was increased to 130, indicating high category.
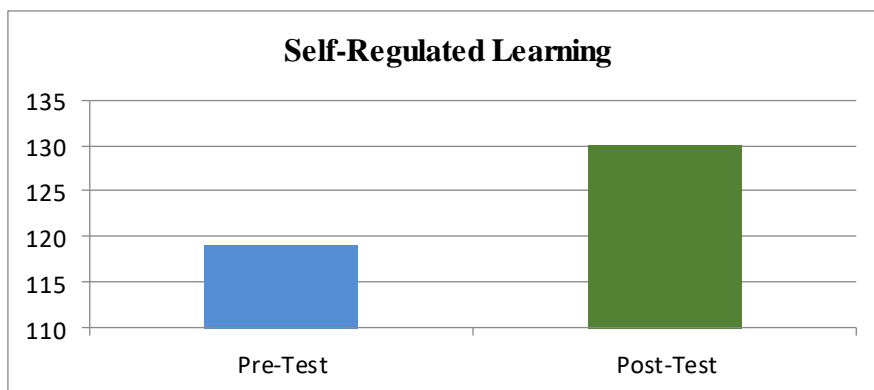

Figure. 1 Self-regulated learning ability

In Figure 2, the participant's internal locus of control increases from 9 (moderate category) to 16 (high category). Conversely, Figure. 3 shows the participant's external locus of control decreased from 14 (high category) to 7 (low category).
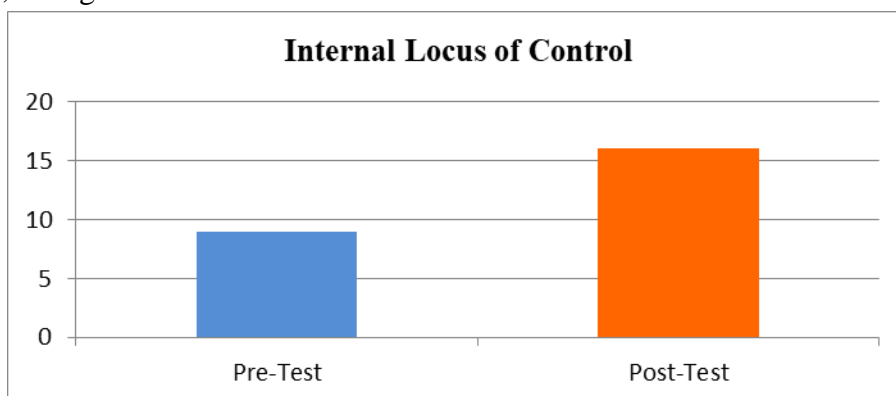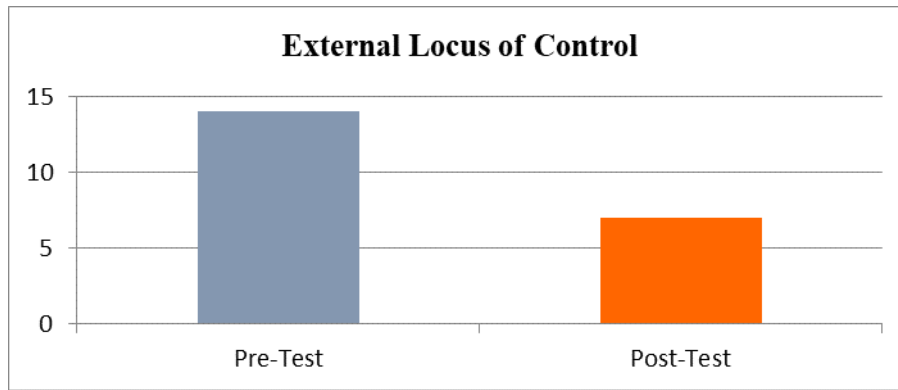

Figure. 2 Internal locus of control

Figure. 3 External locus of control

In Figure 4, the score increases from 72 (high category) to 73 (high category). However, differences between the pre- and post-test scores were not significant.
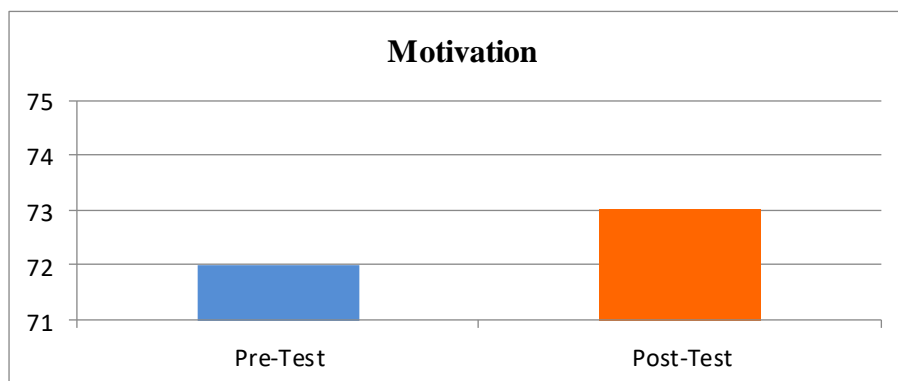

Figure. 4 Self-motivation belief

4. DISCUSSION

This study sought to examine the effectiveness in a male college student of this intervention program comprising four sessions. Among three purposes in this study, two out of three purposes were obtained. Firstly, the participant's self-regulated learning ability was increased. Theoretically, goal setting is a process in the self-regulated learning (Zimmerman, 2000). Therefore, since the participant could set his goal and make an action plan, his self-regulated learning ability simultaneously increased. Wolters, Won, and Hussain (2017) summarized that some studies support this finding that time management skill is positively correlated with metacognition and self-regulatory strategies.

Secondly, as expected, the internal locus of control increased and the external locus of control decreased. The "Taking Control" session aimed to help him gain control over his life by increasing his awareness of controllable factors that contribute to his current academic achievement. This approach is also applied in the self-regulated empowerment program created by Cleary and Zimmerman (2004) to empower students in order to enhance student perceptions of control over the academic performance and learning processes.

Thirdly, the motivation that falls in the high category remained stable. Although these results are high, his motivations were mostly extrinsic. Another study limitation is that the study focused on motivation in general rather than looking deeper into intrinsic and extrinsic factors.

5. CONCLUSION

This intervention succeeded in improving participant's self-regulated learning ability by equipping him with goal setting and time management skills and improving his internal locus of control. However, it did not affect his motivation level.

REFERENCES

[1] Abu Bakar, N., Shuaibu, A., & Abu Bakar, R. (2017). Correlation of self-regulated learning and academic achievement among universiti Sultan Zainal Abidin (UniSZA) undergraduate students. *International Journal of Academic Research in Business and Social Science, 7*(4), 254-268.

[2] Albert, M. A., & Dahling, J. J. (2016). Learning goal orientation and locus of control interact to predict academic self-concept and academic performance in college students. *Personality and Individual Differences*, 97, 245-248. doi: 10.1016/j.paid.2016.03.074

[3] Alotaibi, K., Thomaz, R., & Jabak, O. (2017). The relationship between self-regulated learning and academic achievement for a sample of community college students at King Saud university. *Education Journal, 6*(1), 28-37. doi: 10.11648/j.edu.20170601.14

[4] Balduf, M. (2009). Underachievement among college students. *Journal of Advanced Academics*, *20*(2), 274-294. doi: 10.1177/1932202X0902000204.

[5] Bourne, V. J. (2018). Exploring statistics anxiety: Contrasting mathematical, academic performance and trait psychological predictors. *Psychology Teaching Review, 24*(1), 35-43.

[6] Claessens, B. J., van Eerde, W, Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personal Review, 26*(2), 255-276. doi: 10.1108/00483480710726136

[7] Cleary, T. J., & Zimmerman, B. J. (2004). Self-regulation empowerment program: A school-based program to enhance self-regulated and self-motivated cycles of student learning. *Psychology in the School*, *41*(5), 537-550. doi:10.1002/pits.10177

[8] Cubukcu, F. (2009). Learner autonomy, self-regulation and metacognition. *International Electronic Journal of Elementary Education, 2*(1), 53-64.

[9] Daniel, G. R., Wang, C., & Berthelsen, D. (2016). Early school-based parent involvement, children's self-regulated learning and academic achievement: An Australian

longitudinal study. *Early Childhood Research Quarterly, 36*, 168–177. doi: 10.1016/j.ecresq.2015.12.016

[10] Dent, A. L., & Koenka, A. C. (2015). The Relation Between Self-Regulated Learning and Academic Achievement Across Childhood and Adolescence: A Meta-Analysis. *Educational Psychology Review, 28*(3), 425–474. doi:10.1007/s10648-015-9320-8

[11] Effeney, G., Carroll, A., & Bahr, N. (2013). Self-regulated learning: Key strategies and their sources in a sample of adolescent males. *Australian Journal of Educational & Developmental Psychology, 13*, 58-74.

[12] Eilam, B., & Aharon, I. (2003). Students' planning in the process of self-regulated learning. *Contemporary Educational Psychology, 28*(3), 304–334. doi:10.1016/s0361-476x(02)00042-5

[13] Levesque, R. J. (2018). Underachievement. In J. R. Levesque (Ed), *Encyclopedia of adolsecence.* New York, NY: Springer.

[14] Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2006). *Methods in Educational Reseach: From Theory to Practice.* San Francisco: Jossey-Bass.

[15] Kolb, D. A. (2014). *Experiential Learning: Experience as the Source of Learning and Development* (2nd ed.). Upper Saddle River, NJ: FT Press.

[16] McCoach, D. B., & Siegle, D. (2018). Underachievers. In J. R. Levesque (Ed), *Encyclopedia of adolsecence.* New York, NY: Springer.

[17] Reis, S. M., & McCoach, D. B. (2000). The underachievement of gifted students: What do we know and where do we go? *Gifted Child Quarterly, 44*(3), 152-170. doi:10.1177/001698620004400302.

[18] Schunk, D. H., & Ertmer, P. A. (2000). Academic learning: Self-efficacy enhancing interventions. In M. Boakaerts, P. R. Pintrich, & M. Zeidner (Eds), *Handbook of self-regulation.* San Diego, CA: Academic Press.

[19] Wolters, C. A., Won, S., & Hussain, M. (2017*). Examining the relations of time management and procrastination within a model of self-regulated learning. Metacognition and Learning, 12*(3), 381–399. doi:10.1007/s11409-017-9174-1

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

[21] Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice.*

[22] Zimmerman, B. J., & Kitsantas, A. (2005). The hidden dimension of personal competence: Self-regulated learning and practice. In A. J. Elliot, & C. S. Dweck (Eds), *Handbook of competence and motivation* (pp. 509-526). New York, NY, US: Guilford Publications.

[23] Zimmerman, B. J., & Risemberg, R. (1997). Self-regulatory dimensions of academic learning and motivation. *Handbook of Academic Learning,* 105-125. doi: 10.1016/B978-012554255-5/50005-3