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SELF AWARENESS AS A MEDIATOR FOR SELF-DIRECTED LEARNING AND GOAL SETTING ON STUDENTS

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ABSTRACT

Purpose: Students who have the ability for Self-Directed Learning are expected to increased their Self Awareness and Goal Settings, so that students are more involved in the learning process. This study aims to determine the effect of self-directed learning on student goal setting, either directly or through self-awareness. Research Methods: The research design uses a cross-sectional study method, to 144 students of junior high school. The sampling technique of population in this study is total sampling or saturated sampling. The research instrument uses a self-awareness scale, a self-directed learning scale, and a goal-setting scale. Data analysis techniques use path analysis. Findings: The more students' Self-directed learning increased, the more their self-awareness and goal settings increased. Self-directed learning affects both directly and indirectly through self-awareness of student goal setting. This shows that Self-directed learning will be more successful in increased student goal setting if it is followed by high self-awareness as well. Implications for Research and Practice: This study provides new insight into Education through the perspective of self-awareness and self-directed learning for goal settings students. The schools need to take more initiatives to emphasize student self-awareness and students have clear goal settings in the learning process. Furthermore, the school also needs to put more effort into supporting learning through emphasizing the importance of self-directed learning to students.

Keywords: Self awareness, Self directed learning, goal setting, Junior High School Student.

I. INTRODUCTION

Education is essential for individuals in preparing themselves to their productive years as an adult (Dahl, Allen, Wilbrecht & Suleiman, 2018). With the educational process, individuals are expected to learn to control themselves and understand others. Besides, education is also expected for individuals to improve their quality and productivity, which will either individually or socially encourage welfare (Dahl, Allen, Wilbrecht & Suleiman, 2018; Madani, 2019). Education is also an investment for students in the future (Rasyid, 2015). However, the educational process will not be successful if it is not accompanied by the participation of the students themselves in carrying out their education. One of the students' roles in education is to have self-directed learning. Hasbullah (2005) states that one of the education problems in Indonesia is the lack of students' interest in self-directed learning. It shows that self-directed learning is very important for students.

2
Self-directed learning is an active learning activity driven by the intention or motive to master a competency in order to solve a problem, and it is developed with the knowledge or competence that you have. The competence setting as a learning goal and how to achieve it, both the setting of study time, place of study, learning rhythm, tempo, method and evaluation of learning are carried out by the students themselves. Self-directed learning is more interpreted as students' efforts to carry out learning activities based on the intention to master certain competencies (Mujiman, 2005).

3
Self-directed learning is defined as an individual process of taking the initiative without the help of others in diagnosing learning needs, setting goals, recognizing human and material resources and evaluating their learning outcomes" (Knowles, 1975; Mezirow, 1985).

The results of several previous studies show that self-directed learning has also been found to help students recognize and achieve their learning goals (Knowles, 1975; Khat, 2015; Ponton & Carr, 2000). Self-directed students will proactively recognize and try new ideas and skills so that it is easier to overcome obstacles in the process of achieving their goals (Rhee, 2003; Loyens, Magda & Rikers, 2008). Individuals will later be able to evaluate the goals they have set and determine what needs to be developed in themselves to achieve these goals (Khat, 2015; Lejeune, Beusaert & Raemdonck, 2018). However, there is also a study stating that goal settings may enable the students to be more capable of having self-directed learning (Hematian, Rezaei & Mohammadyfar, 2017) so that further study is needed to see the effect of self-directed learning on students' goal settings.

Goal setting itself is defined as the formation of an activity plan designed to motivate and guide a person or group to achieve a specific goal (Dudkhane, 2017). In an educational context, goals are an integral component of motivation and learning (Schunk, 2003). Goal setting affects learning processes by directing attention and action, mobilizing effort exertion, extending the extent of effort (persistence), and motivating individuals to develop relevant strategies to achieve their goals (Robbins and Judge, 2013). Students who have their goal set perform better academically than those who do not (Van Lent & Souverijn, 2020).

Apart from self-directed learning which could affect goal settings, several studies state that self-awareness has an important role in determining students' goal settings (Fischer, Gauggel, Trexler, 2004; Travers, 2013). Self-awareness is focusing the concentration on yourself. Self-awareness refers to the capacity to make oneself an object on which one's own attention is focused (Wicklund, 1975; Leary & Hoyle, 2009). Students who have good self-awareness will have clear goals because self-awareness helps those students choose the goals they want to achieve (Cuseo, McLaughlin, Moono, 2010). To increase individuals' self-awareness, individuals can carry out self-directed learning strategies (Mezirow, 1985; Garrison, 1997; Boyatzis, 2001; Rhee, 2003).

Self-awareness is also expected to be a mediator variable between self-directed learning and goal settings. It is because self-awareness is an important internal part to foster an individual's goal settings for the better (Dadgar, Vahid Fallah, Taheri, 2020) and self-directed learning demands motivation as well as metacognitive, one of which is self-awareness to achieve learning goals (Bandura, 1993). In line with Stubbe, Theunissen (2008) states that students need to be stimulated to make decisions in their education, so self-awareness of their own learning, performance and clear learning objectives is needed. This will be more effective when students have the ability to learn autonomously.

Students are expected to have goals in their learning and to achieve these set goals, individuals need an awareness of their ability to overcome and solve the problems in learning (Boekaerts, 1999; Fischer, Gauggel & Trexler, 2004). High self-awareness will keep students in fulfilling the goals that have been set from the learning process (Travers, Morisano & Locke, 2015). This self-awareness can be developed by the existence of self-directed learning in students which in turn will help them set their goals (Ridley, Schutz, Glanz & Weinstein, 1992). Thus, it can be assumed that the students need to have the ability for self-directed learning and self-awareness in order to be able to set goals to achieve learning goals. The effect of self-directed learning can be seen partially on the goals setting and also can be seen jointly through self-awareness.

4 THEORETICAL FOUNDATIONS

Self-Directed Learning

Self-directed learning is defined as an individual process of taking the initiative without the help of others in diagnosing learning needs, setting goals, recognizing human and material resources and evaluating their learning outcomes" (Knowles, 1975; Mezirow, 1985). There are five areas as the target of self-directed learning, which are awareness, learning strategies, learning activities, evaluation and interpersonal skills (Williamson, 2007; Williamson & Seewoodhary, 2017). Self-directed learning is not limited to a continuous learning process but is carried out to train the ability to recognize oneself (Knowles, 1975; Garrison, 1997).

Self-Awareness

The theory of self-awareness was first conceptualized by Duval and Wicklund in 1972 stating that self-understanding can be achieved by self-evaluation. Understanding oneself in this context is through thoughts, feelings and behavior through a process looking into the self and the existing standard of truth (Duval & Silvia, 2001; Duval, Silvia & Lalwani, 2001). Individuals with self-awareness will be able to attribute the consequences of an act they have done to themselves, not others, so that they will consciously understand the results of the decisions they make (Duval & Wicklund, 1973). This concept is later developed by several researchers (Fenigstein, Scheier & Buss, 1975; Buss & Scheier, 1976; Geller & Shaver, 1976; Hull & Levy, 1979). Fenigstein, Scheier and Buss (1975) use another term for self-consciousness and divide this construct into two aspects, namely the personal aspect and the public aspect. Personal awareness emerges as a result of a cognitive process that exists in each individual which emerges when a person begins to become aware of the viewpoint of others outside himself. Meanwhile, public awareness is formed from others' evaluations of ourselves. The measurement of self-awareness was first applied in the Self-Consciousness Scale developed by Fenigstein, Scheier and Buss (1975).

To achieve these set goals, individuals need an awareness of their ability to overcome and solve the problems in learning (Boekaerts, 1999; Fischer, Gauggel & Trexler, 2004). Self-awareness is individual's ability to focus attention on himself, understand the feelings inside himself and realize the influence of these feelings on others (Wicklund, 1975; Wicklund & Gollwitzer, 1987; Duval, Silvia & Lalwani, 2001). There are three aspects of self-awareness, namely private self-consciousness, public self-consciousness and social anxiety (Fenigstein, Scheier, dan Buss, 1975; Scheier dan Carver, 1985; Higa, Phillips, Chorpita, Daleiden, 2008; Morin, 2011). Self-awareness focuses on two situations, namely when a person focuses on his thoughts, feelings, actions or appearance and perceptions of himself, and when making decisions or plans that involve him (Fenigstein, Scheier & Buss, 1975).

With self-awareness, a person is able to understand his own state and compare himself with the actual situation around him (Duval, Silvia & Lalwani, 2001). A person with high self-awareness will be able to understand the impact or outcome of the decisions they make (Duval & Wicklund, 1973). High self-awareness will keep students in fulfilling the goals that have been set from the learning process. (Travers, Morisano & Locke, 2015). Self-aware students can understand their potential, and on the other hand, recognize the limitations that they need to overcome (Ridley, Schutz, Glanz & Weinstein, 1992).

Self-awareness is a condition in which individuals are able to realize their strengths and weaknesses and are able to realize their interests so that they can be focused appropriately (Gunawan & Wulandari, 2017). Duval & Wicklund (in Wicklund, 1975; in Leary & Hoyle, 2009) state that self-awareness is focusing the attention on oneself. Self-awareness refers to the capacity to make oneself an object on which one's own attention is focused.

Goal Settings

Goal setting is the formation of an activity plan designed to motivate and guide a person or group to achieve a specific goal (Daudkhane, 2017). Goal setting is the planning of activities to guide and maintain a person to stay motivated to achieve the goal they have set by directing their focus and energy in achieving the desired behavior (Ridley, Schutz, Glanz & Weinstein, 1992; Daudkhane, 2017; Duckworth, Milkman & Laibson, 2018). Goal setting consists of five constituent aspects, namely intensity, high-performance cycle, task complexity, commitment, and feedback (Latham & Locke, 1991; Robbins & Judge, 2013; Setiawan, 2017). There are two types of goal setting, the first is mastery goals, which focus on developing skills and competencies, and the second is performance goals, which emphasize a sense of self-worth (McInerney, Roche, McInerney & Marsh, 1997).

Students who have their goal set perform better academically than those who do not (Van Lent & Souverijn, 2020). Students with fixed long-term goals also show stability to continue their academic completion process (Vaughn, Roberts, Fall, Kremer & Martinez, 2020). Goal setting affects the learning process by directing focus and action, mobilizing effort exertion, extending the duration of effort (persistence), and motivating individuals to develop relevant strategies to achieve their goals (Robbins & Judge, 2014).

Purpose of the study

Based on the description above, a theoretical concept framework is arranged, as shown in Figure 1. In line with the previous explanation, Self-directed learning is the primary determinant of goal setting for students, and self-awareness mediates the effect of self-directed learning on goal setting. Thus, this study aims to determine the effect of self-directed learning on self-awareness and the effect of self-directed learning on goal setting, both directly and indirectly through self-awareness.

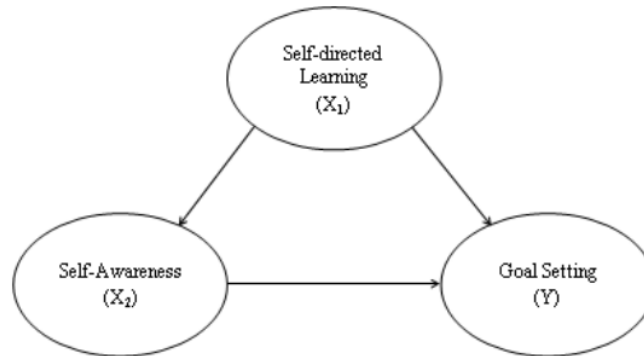


Figure 1. Research conceptual framework

Hypothesis in this study are:

- H₁ : Self-awareness has a direct effect on goal setting
- H₂ : Self-directed learning has a direct effect on self-awareness
- H₃ : Self-directed learning has a direct effect on goal setting
- H₄ : Self-directed learning indirectly affects goal setting through self-awareness

II. METHOD

Participants

The researcher made a research design using quantitative methods with a cross sectional survey model which aims to describe the variables studied by collecting data or information with the help of instruments analyzed using statistical procedures through hypothesis testing. The samples in this study are 144 students of junior high school in Martapura Timur Banjar Regency, consisting of male and female students who are in the age range of 11 to 17 years old.

Measures

For data collection, three research instruments with a psychological scale were used to measure each variable. The students' self-directed learning was measured using Self-Rating Scale of Self-Directed Learning (SRSSDL) (Williamson, 2007; Williamson & Seewoodhary, 2017) measuring awareness, learning strategies, learning activities, evaluation and interpersonal skills. This SRSSDL consists of 53 items with its reliability value of 0,940. Then, students' self-awareness variables were measured using Self-Consciousness Scale (Fenigstein, Scheier and Buss; 1975; Rafatpanah, Seif, Khosravani & Alborzi, 2016; Park & Woo, 2019) consisting of three aspects of self-consciousness, namely private self-consciousness, public self-consciousness, and social anxiety. This scale consists of 29 items with a reliability value of 0,902. The goal-setting scale was made based on the goal-setting aspects (Latham and Locke, 1991; Bipp, T., & Kleingeld, A.D., 2011; Devarajan., Maheshwari., S &

Vohra, V. 2018) including intensity, high-performance cycle, task complexity, commitment, and feedback. This goal setting scale consists of 44 items with a reliability value of 0.893. The data used in this study were interval data. The scale of goal setting and self-awareness for favorable items consists of 4 answer choices, namely strongly agree scored 4, agree scored 3, disagree scored 2 and strongly disagree scored 1. Then, unfavorable items scoring is vice versa. Later, Self-Rating Scale of Self-Directed Learning (SRSSDL) consists of 5 answer choices, namely always scored 5, often scored 4, sometimes scored 3, rarely scored 2 and never scored 1.

Data analysis

Data analysis in this study uses path analysis with two analysis techniques. Multiple linear regression analysis is conducted to determine the effect of self-awareness and self-directed learning on goal setting. Simple linear regression analysis is to determine the effect of self-directed learning on self-awareness. Data analysis is performed with the assistance of a computer statistical program (SPSS for Windows version 21).

Before analyzing the data, normality, linearity and heteroscedasticity tests were carried out. Distribution normality test is conducted to determine if the data used in this study are normally distributed or not. The distribution normality test uses One-Sample Kolmogorov-Smirnov Test (K-ZS) statistical technique, with the assistance of computer program. The result of normality coefficient of self-directed learning is 0.071 ($p = 0.070$), goal setting is 0.073 ($p = 0.055$) and self-awareness is 0.071 ($p = 0.076$), which indicates the distribution of data for all variables is normally distributed ($p > 0.05$). Linearity test is carried out by comparing mean of each variable. The F coefficient found in the relationship between self-directed learning and self-awareness is 15,350 ($p = 0.000$), between self-directed learning and goal setting is 8,429 ($p = 0.005$) and between self-awareness and goal setting is 68,748 ($p = 0.000$). These results indicate that the assumption of linearity for each relationship is fulfilled ($p < 0.05$). Heteroscedasticity test aims to determine whether in a regression model there is a variance inequality of the residuals from one observation to another. The heteroscedasticity test result with independent variables of self-directed learning and self-awareness with the dependent variables of goal setting note that the scatterplot result shows no clear pattern and the dots spread above and below the number 0 on Y axis so that heteroscedasticity is said to be absent. A good regression model is not heteroscedasticity.

III. RESULT

The research description data obtained from the calculation of 144 students as illustrated in Table 1. The data presented as in table 1 is then used to determine the tendency of research subjects' responses to each research variables. Each research variable is classified based on norms. Norms are arranged based on given level of differentiation, the limits are set based on the standard deviation unit taking into account the theoretical maximum and minimum value range.

Table 1. Research Data Description

Variable	Hypothetical Score				Empirical Score			
	X_{min}	X_{max}	Mean	SD	X_{min}	X_{max}	Mean	SD
Self-directed Learning	70	280	175	3.5	145	253	190.58	24.179
Goal Setting	44	176	110	22	87	165	132.01	12.370
Self-Awareness	29	116	72.5	14.5	54	115	93.33	9.168

Table 2. Categorization of Self-Directed Learning Scores

Variable	Score Range	Category	Frequency	Percentage
Self-Directed Learning	$X < 123,67$	Low	-	-
	$123,67 \leq X < 194,33$	Moderate	88	61,1%
	$194,33 \leq X$	High	56	38,8%
Total			144	100%

Table 3. Categorization of Goal Setting Scores

Variable	Score Range	Category	Frequency	Percentage
Goal Setting	$X \leq 77$	Really Low	0	0%

	77 < X ≤ 99	Low	2	1,39%
	99 < X ≤ 121	Moderate	26	18,06%
	121 < X ≤ 143	High	95	65,97%
	143 < X	Really High	21	14,58%
	Total		144	100%

Table 4. Categorization of Self Awareness Scores

Variable	Score Range	Category	Frequency	Percentage
Self-Awareness	X ≤ 50,75	Really Low	0	0%
	50,75 < X ≤ 65,25	Low	1	0,69%
	65,25 < X ≤ 79,75	Moderate	8	5,56%
	79,75 < X ≤ 94,25	High	69	47,92%
	94,25 < X	Really High	66	45,83%
	Total		144	100%

The calculation result referred to the norm note that of all respondents (n = 144), it is found that 61.1% (n = 88) have moderate category self-directed learning, 38.8% (n = 56) have high category self-directed learning and subjects with low category self-directed learning are not found (see table 2). The empirical mean of self-directed learning is found to be greater than the hypothetical mean (190.58 > 175) which indicates that the study respondents have high abilities of self-directed learning (see table 1).

The ability to set goals for all respondents obtained 1.39% of respondents (n = 2) with a low level of goal setting, 18.06% (n = 26) who are in moderate category, 65.97% (n = 95) who are in high category, 14.58% (n = 21) are in very high category and none are in very low category (see table 3). The empirical mean of goal setting is found to be greater than the hypothetical mean (132.01 > 110) which indicates that the study respondents have a high ability to set goals (see table 1).

Self-awareness from all respondents has a tendency, which are 0.69% (n = 1) are in low category, 5.56% (n = 8) are in moderate category, 47.92% (n = 69) are in high category, 45.83% (n = 66) are in very high category and no one is in very low category (see table 4). The empirical mean of self-awareness is found to be higher than the hypothetical mean (93.33 > 72.5) which indicates that the research respondents have high self-awareness (see table 1).

Hypothesis testing uses path analysis with hierarchical regression, by making three simple regression equations or multiple regression, so that it can be seen the mediating effect of self-awareness variable on the relationship of self-directed learning variable and goal setting variable.

Table 5. Correlation Values between Goal Setting, Self-Directed Learning and Self-Awareness

		Self-Awareness	Self-Directed Learning	Goal Setting
Self-Awareness	Pearson Correlation	1	.338**	.548**
	Sig. (2-tailed)		.000	.000
	N	144	144	144
Self-Directed Learning	Pearson Correlation	.338**	1	.239**
	Sig. (2-tailed)	.000		.004
	N	144	144	144
Goal Setting	Pearson Correlation	.548**	.239**	1
	Sig. (2-tailed)	.000	.004	
	N	144	144	144

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6. Coefficient Value of Self-directed Learning Variables and Self-Awareness on Goal Setting

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	108,745	8,009		13,578	.000
	Self-Directed Learning	,122	,042	,239	2,928	.004
2	(Constant)	59,714	9,796		6,096	.000

	Self-Directed Learning	,031	,038	,061	,811	,419
	Self-Awareness	,711	,101	,527	7,060	,000
a. Dependent Variable: Goal Setting						

As shown in Table 5, the result shows that each variables are associated with each other significantly at the 0.01 level. Self-directed learning is weakly associated to goal setting ($r = 0.239$). Self-awareness is shown to have weak association with self-directed learning ($r = 0.338$) and moderate association with goal setting ($r = 0.548$). The result (see table 6) also shows a significant effect of self-directed learning variable on direct goal setting ($B = 0.239$; $p = 0.004$; <0.05) and a significant effect of self-awareness on direct goal setting ($B = 0.527$; $p = 0.000$; <0.05). This figure suggests that self-awareness of self-directed learning can significantly predict goal setting. It can be concluded that the first hypothesis (H1), direct influence of awareness on goal setting, and the third hypothesis (H3), direct effect of self-directed learning on goal setting can be accepted.

Table 7. Coefficient Value of Self-directed Learning Variable on Self-Awareness

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	68.927	5.754		11.980	.000
	Self-Directed Learning	.128	.030	.338	4.276	.000
a. Dependent Variable: Self-Awareness						

The simple linear regression result in table 7 shows a significant effect of self-directed learning on self-awareness ($B = 0.338$; $p = 0.000$; <0.05) with the contribution of self-directed learning variables to self-awareness of 11.4%. It shows that the second hypothesis (H2) is accepted, that is, there is an effect of self-directed learning on self-awareness.

To see the indirect effect of self-directed learning variable on goal setting through self-awareness, it is known that the influence of self-directed learning variable on self-awareness ($X_1 \rightarrow X_2$) is 0.038, while the influence of self-awareness variable on goal setting ($X_2 \rightarrow Y$) is 0.527. The calculation result of the indirect effect, which is the influence of adversity intelligence variable on academic procrastination through learning motivation ($X_1 \rightarrow X_2 \rightarrow Y$) are known to be 0.038×0.527 or equal to 0.020026. The regression result equation is: $Y = 0.038X_1 + 0.527 X_2 + e$. The effective contribution of the two variables is 30.3% with the contribution of other variables outside the model is 69.7%. The recapitulation of path analysis value is illustrated in table following table.

Table 8. Recapitulation of path analysis result

Variable	Contribution	
	Direct	Indirect
$X_1 \rightarrow X_2$.038	-
$X_1 \rightarrow Y$.239	-
$X_2 \rightarrow Y$.527	-
$X_1 + X_2 \rightarrow Y$	-	.020026

From the calculation result of the regression equation, which is the equation to see the direct and indirect effects, it can be concluded that self-directed learning variable affects goal setting directly and indirectly through self-awareness variables. These result indicates that the fourth hypothesis (H4), that there is an indirect effect of self-directed learning on goal setting through self-awareness, is acceptable.

The regression equation from the values of the three research variables can be used to model the trajectory. The trajectory model is illustrated in the following chart (figure 2):

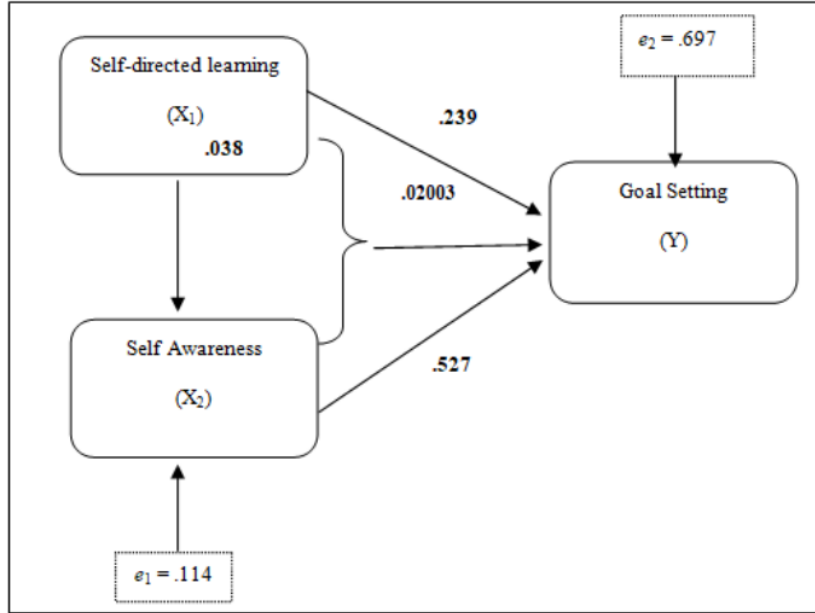


Figure 2. The model trajectory of self-directed learning, self-awareness and goal setting

Coefficient t count for self-directed learning (0.811) is less than self-awareness (7.060) as show in table 6, indicates that self-awareness has a greater influence than self-directed learning in determining goal setting. The two independent variables are found to be directly proportional to the dependent variable, where the higher self-directed learning behavior shown and the self-awareness they have, the higher and the probability of goal setting.

IV. DISCUSSION, CONCLUSION, RECOMMENDATIONS

DISCUSSION

In line with several previous studies, this study shows that there is evidence to strengthen the correlation between self-directed learning, self-awareness and goal setting (Travers, Morisano & Locke, 2015; Daudkhane, 2017; Du Toit-Brits, 2018; Schweder, 2020; Van Lent & Souverijn, 2020; Vaughn, Roberts, Fall, Kremer & Martinez, 2020). As in the hypothesis, the result indicates an effect of self-directed learning on goal setting both directly and indirectly through self-awareness. Based on the categorization result, it is also found that there are high scores for goal setting, self-directed learning and self-awareness in the sample.

Overall from the samples (n = 144), it is found that none has low self-directed learning ability, 61.1% (n = 88) have moderate self-directed learning ability, and 38.8% (n = 56) have high self-directed learning ability (see Table 2). High self-directed learning ability means that the samples are able to take the initiative on their own to recognize their learning needs and difficulties, then formulate the strategies needed to meet their goals and overcome problems (Knowles, 1975; Mezirow, 1985; Khiat, 2015; Lejeune, Beusaert & Raemdonck, 2018). Students who do self-directed learning well also recognize the goals they will achieve from the process (Du Toit-Brits, 2018; Lejeune, Beusaert & Raemdonck, 2018; Schweder, 2020).

Of the total sample (n = 144), it is found that there are no students who have very low goal setting, 1.39% (n = 2) have a low level of goal setting, 18.06% (n = 26) have a moderate level of goal setting, 65.97 % (n = 95) have a high rate of goal setting, and 14.58% (n = 21) have very high goal setting (see table 3). High goal-setting shows that the samples have a specific description and plan for the goals to be achieved in the future (Daudkhane, 2017). Also, it indicates that students who have high goal-setting tend to perform effectively academically and have the ability to complete their learning process until the goals they set can be achieved (Van Lent & Souverijn, 2020; Vaughn, Roberts, Fall, Kremer & Martinez, 2020).

Of the total sample (n = 144), it is found that there are no students with very low self-awareness, 0.69% (n = 1) have low self-awareness, 5.56% (n = 8) have moderate self-awareness, 47.92% (n = 69) have high self-

awareness, and 45.83% (n = 66) have very high self-awareness (see table 4). High self-awareness indicates students are able to understand their condition during the learning process and decisions made from the learning process (Duval & Wicklund, 1973; Duval, Silvia & Lalwani, 2001). High self-awareness helps students to meet the learning goals they have set (Travers, Morisano & Locke, 2015; Geitz, Joosten-ten Brinke & Kirschner, 2016; Louws, Meirink, van Veen & van Driel, 2017). Students with high self-awareness tend to be disciplined in learning because awareness makes individuals avoid normative opposite behavior, so they are less likely to engage in non-productive behavior during academic years (Galleno & Liscano, 2013).

This study result indicates that self-directed learning has a significant effect on goal setting. Students who do self-directed learning can more easily set their learning goals in the educational process. It is in line with several studies showing the implications that self-directed learning can help students to set their goals (Agran, Blanchard & Wehmeyer, 2000; Nothnagle, Goldman, Quirk, & Reis, 2010; Khiat, 2015; Lejeune, Beusaert & Raemdonck, 2018; Koç, 2019; Schweder, 2020).

Students who do self-directed learning on their own accord or with intervention by the teacher are believed to have autonomy in their educational process (Nah, 1999; Rhee, 2003; Loyens, Magda & Rikers, 2008). The application of self-directed learning helps individuals to set their goals and determine the right strategy to achieve them. (Lejeune, Beusaert & Raemdonck, 2018). Goals can be divided into two: mastery goals and performance goals. Students who do self-directed learning are found to be able to apply both of these objectives compared to those with teacher-based learning (Du Toit-Brits, 2018; Schweder, 2020).

These findings are consistent with existing independent learning models (Knowles, 1975; Garrison, 1997; Bolhuis, 2003). In the early self-learning model described by Knowles (1975), students who apply the self-directed learning model will be able to recognize clear and meaningful learning objectives. Being self-directed means knowing what you want and what makes you interested, so the final result of self-directed learning process means that a person knows which field they are interested in before setting realistic goals according to their competences.

Garrison (1997) develops Knowles's theory and adds that the valence of goals set will help students commit to existing goals. This valence arises when students feel that their goals can meet their personal needs (values) and affective states (preferences). Thus, realistic goals, as intended by Knowles, can be understood in Garrison model as goals that provide real satisfaction and benefits to self-directed students.

This understanding was further expanded by Bolhuis (2003) that students will be interested in one or more learning areas if they feel an increase in competence in that field. This feeling of efficacy will increase self-confidence and encourage students to continue to develop their abilities and knowledge in that field. This interest generates internal motivation. As individuals become more motivated, they will develop their own goals in that area. In addition to learning goals, Bolhuis also added that students who apply self-directed learning would also set the life goals that they want to achieve outside of school and are not limited to academic achievement.

From the three models of self-directed learning, it can be observed the dynamics of how students set their goals after being self-directed. Self-directed learning will encourage students to choose areas of their interest and not be determined by people or other circumstances outside of themselves. In the three models described above, self-directed learning can be taught by educators to give students space to act autonomously and the freedom to choose what they want to learn according to their interest. If students feel that a learning area will be beneficial for them in the future, they will set their goals according to their interests and motivation.

The awareness that a learning process will produce certain benefits and the need to establish an appropriate strategy to achieve the goals can be considered as a form of self-awareness (Lombardozzi, 2016). A clear goal to do a task is an indicator of a high level of self-awareness that a student possess (Ridley, Schutz, Glanz & Weinstein, 1992). Self-awareness is also metacognitive which helps students to be self-reflective, regarding how likely they are to achieve goals and how far they have succeeded in achieving those goals (Boekaerts, 1999; Dunlap & Grabinger, 2003; Travers, Morisano & Locke, 2015).

In this study, it is found that self-awareness has a positive and significant effect on goal setting. From these results, it can be concluded that students who have self-awareness are more likely to apply goal-setting. It is in line with several similar studies (Beckers, Dolmans & Van Merriënboer, 2016; Geitz, Joosten-ten Brinke &

Kirschner, 2016; Louws, Meirink, van Veen & van Driel, 2017). Individuals who have autonomous reasons for learning will set their learning goals and expectations in their chosen field (Beckers, Dolmans & Van Merriënboer, 2016; Louws, Meirink, van Veen & van Driel, 2017). Awareness of self-competence will also lead students independently towards positive goals and are more willing to carry out the learning process without coercion from others (Geitz, Joosten-ten Brinke & Kirschner, 2016).

Apart from helping to set goals, self-awareness also helps students achieve the goals they want to accomplish through strategies that are deemed appropriate (Ridley, Schutz, Glanz & Weinstein, 1992; Dagal & Bayindir, 2016; Örs & Titrek, 2018). If self-awareness generates metacognition in students regarding what they have to achieve and how to achieve what they have to achieve, then self-awareness serves as a regulator in the process of setting student goals (Ajisukmo & Saputri, 2017). Self-directed learning is not only limited to setting learning goals, but also building students' metacognitive awareness so they know how to achieve predetermined goals (Ridley, Schutz, Glanz & Weinstein, 1992). Students who control their learning process are also found to be able to regulate their cognitive and metacognitive strategies (Dagal & Bayindir, 2016). Thus, the ability to manage the process depends on their self-directed ability (Örs & Titrek, 2018).

The direct influence of self-awareness versus self-directed learning on goal setting found in research supports this implication. In a self-directed study, students are expected to have self-awareness of what they want to achieve from the learning process and maintain the awareness until they achieve those goals. Without the ability to carry out self-reflection, individuals will find it challenging to achieve the learning goals set (van Houten-Schat, Berkhout, van Dijk, Endedijk, Jaarsma & Diemers, 2018). Also, goals will be created and achieved if students have critical thinking. Students should not only be aware that learning is beneficial for them, but also the reasons why it is. (Mezirow, 1985; Uyar, Genc & Yasar, 2018).

5
The effectiveness of self-directed learning models as developed by Knowles (1975) will only appear when educators know which aspects they should intervene with students. These findings then support the implications stated by Garrison (1997) and Bolhuis (2003) that broader self-awareness, which is the awareness that learning is not only a matter of score or achievement but also their future needs related to aspects of their lives. Otherwise, it will help students to set their goals. Only realistic goals, according to their circumstances and abilities and have clear benefits, will guarantee the learning process of students independently.

These dynamics are able to explain why the effect of self-directed learning on goal setting in student in this study, are directly significant but are not significant when simultaneously tested with self-awareness variables. The relationship between self-directed learning and goal setting will only be significant if students have self-awareness. It makes it easier for students to recognize their goals and determine what needs to be done to achieve them. This implication is what Garrison calls a learning-to-learn process.

V. CONCLUSION

Self-directed learning process was found to help the students to set their goals, both their studies and lives. Self-directed learning is more successful if students have self-awareness of what they are doing. Thus, self-directed learning and self-awareness help the students achieve their desired learning goals. This of course have a very good impact on education, learning and teaching processes in schools, especially in Indonesia.

RECOMMENDATIONS

The effective contribution of self-directed learning and self-awareness variables to goal setting was 30.3% with the contribution of other variables outside the model of 69.7%. In other words, several other factors influenced goal-setting, such as peer support (Cheng & Lee, 2018), educational culture (Geitz, Joosten-ten Brinke & Kirschner, 2016), goal orientation (Beckers, Dolmans & Van Merriënboer, 2016), and individual personality (Lamm, Sheikh & Edgar, 2019). This implication can be a recommendation for future researchers to develop formation models of goal setting for students.

In addition, in order to encourage students to be able to have and achieve goal settings, the students need to have self-directed learning and self-awareness. Thus, intervention from schools is needed to help students achieve these two things. Schools can provide training for students to create, select and determine self-directed learning models and self-awareness that they need for learning processes or include appropriate self-directed learning

models in their learning curriculum (Smedley, 2007; Du Toit-Brits, 2020). Further studies on this subject can also be considered for further research.

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