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The interplay of academic efficacy and goal orientation toward academic achievement

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Abstract. This study was aimed to examine the interplay of academic efficacy, goal orientation toward academic achievement. 199 first and second year university students in Indonesia were selected as respondents. The Pattern of Adaptive Learning Scales (PALS) was used to measure the academic efficacy and goal orientation. The finding revealed that mastery goal orientation is a considerable factor for academic achievement. This finding can be used in the context of improving educational quality achievement in Indonesia.

Keywords: Academic efficacy, Goal orientation, Academic achievement.

1. Introduction

Many factors play role on academic achievement, including psychological factor such as goal orientation, self-efficacy, anxiety, self-esteem [1]. In the same line, Aronson [2] stressed the important of psychological factors e.g. motivation, beliefs, self-concept, self-efficacy. In this study we focused the link of academic achievement to the two main psychological factors, i.e., self-efficacy and goal orientation.

Concerning to the self-efficacy, research shows that self-efficacy is related to the student performance [3], and can predicts the student achievement [4]. Other research also found that self-efficacy has significant impact on improving academic achievement in many school subject areas, such as math, science and writing [5]. The study by Pajares and Graham [6] also revealed that students with high self-efficacy, search for deeper meaning across tasks, report lower anxiety, and result in higher achievement.

Meanwhile, goal orientation also affects the way of students in approaching learning and showing results, and affects the performance of students in the class [7]. Stipek [8] stated that the goal orientation influences the selection of activity in academic tasks and selection of learning approach.

Related to the Indonesian context, the international educational quality assessments show the low rank of Indonesian educational achievement [9]. The Program for the International Assessment of Adult Competencies (PIAAC), puts Indonesia in rank 34 out of 34 countries [10]. Study by The Learning Curve, ranks Indonesia 40 out of 40 countries [11]. Furthermore, the Program for International Student Assessment (PISA) ranks Indonesia 62 out of 70 countries [12]. Those International research reports show that Indonesia needs a strategy to improve the quality of its education.

Therefore, in the context of improving the academic achievement, in this study we link the academic efficacy, and goal orientation to the academic achievement. This study is set up in higher education in Indonesian University.

2. Theoretical background

2.1. Academic efficacy

Self-efficacy is an individual belief in his or her competency to organize and execute a required action in relation to achieve the desired result [3]. Moreover, Bandura [3] stressed that self-efficacy should be contextualized. Therefore, in this study the efficacy is linked to the academic efficacy.

Academic efficacy refers to individual's conviction that they can successfully perform given academic task at designed level [13]. Bandura [3] specified academic efficacy as a person's belief concerning the confidence in performing various academic task. Midgley, Maehr [14] defined the academic efficacy as a student's perception of their competence to do their class work.

Research has shown that self-efficacy is positively related to academic performance [15]. Student with high self-efficacy spend more effort toward the activities and can develop more effective

strategies against the difficulties [16]. Students with strong sense of academic efficacy undertake more challenging task [17], expand greater effort accomplishing a given task [6] have higher academic aspiration [18], and are more mastery goal oriented [19].

2.2. Goal orientation
Goal orientation is a specific orientation representing the desire to develop, achieve, or demonstrate competence. This can affects the way students approach learning and show results, and can affects the performance of students in the class [7]. Barron and Harackiewicz [20] stated that the goal orientation describes the integration of belief that leads to a variety of ways to respond any situations to achieve. Stipek [8] says that the goal orientation could be interpreted as part of the cognitive factors in motivation and drive for individual toward or away from an object. Thus, it can be stated that the goal orientation is a cognitive factor that must be possessed by student. Goal orientation affects the selection of activity in academic tasks and selection of learning approach.

More recent work of goal orientation distinguished the goal orientation into three goal framework as called by trichotomous conception [21]. These three goals are; 1). Mastery goal; defined as a goal focused on attaining competence as defined by task-based or intrapersonal standards. 2). Performance approach goal; defined as a goal which focused on attaining competence defined by normative standards. 3). Performance avoidance goal; defined as goal focused on avoiding incompetence as defined by normative standards.

Many studies revealed the relation between goal orientation and academic achievement. Discernable patterns have emerged, particularly for performance based goals. Performance-approach goals are often positive predictors of performance outcomes [22-24], although null findings are also present in the literature [25, 26].

Performance-avoidance goals, are typically negative predictors of performance [27-29], although some null results have also been found [30]. Mastery goals are often positive predictors of performance when zero-order correlations are considered [31-33], although some null results have been observed [34, 35]. In some studies, mastery goals remain positive predictors of performance in simultaneous analyses [27, 36-38]. Mastery goals appear more likely to be a positive predictor of conceptual learning and performance, as opposed to rote learning and performance.

2.3. Academic efficacy, goal orientation and academic achivement
In this study we link academic efficacy and goal orientation to the academic achievement. Building on the available studies, we propose the hypothesis that the academic efficacy and goal orientation has significant impact to the academic achievement. However, considering the types of goal orientation, we predict that performance-avoide goal orientation will have no significant impact to the academic achievement.

3. Method
The participants in this study are students of psychology department selected from Bina Nusantara University in Indonesia. 199 first and second year students were selected to be respondents, comprises of 40 males and 159 females.

To measure the academic efficacy, we use the Pattern of Adaptive Learning Scales (PALS), Midgley,[14]. The PALS academic efficacy rated with five point likert-type scales. This academic efficacy scale has 5 items. Example item scale: *"I am certain I can master the skills taught in class this year"*. Items scales are anchored at 1 = "Not at all true," 3 = "Somewhat true," and 5 = "Very true. The reliability for PALS academic efficacy scale = .78, and for the current study = .75

We also use the PALS goal orientation scale. It is has three types of goal orientation; Mastery Goal Orientation (MGO), Performance-approach Goal Orientation (PApproach), and Performance-avoid Goal Orientation (PAvoid). This scale has 14 items, 5 item for MGO, example: *"It's important to me that I learn a lot of new concepts this year"*. 5 items for PApproach, example: *"one of my goal is to show others that I'm good at my class works"*, and 4 items for PAvoid, example: *"it's important to me that I don't look stupid in class"*. The reliability for PALS MGO = .85, PApproach = .89, and PAvoid = .74, and for the current study, MGO = .78, PApproach = .79, and PAvoid = .59.

To measure the academic achievement, we used the grade point at the end of semester. In this study we focus the measurement of academic achievement in first year student we assess General Psychology subject, and for second year student we assess Educational Psychology subject.

To standardize the value of each variable, we formulate the maximum and minimum values for all variables by making the variable with the fewest number of items as a benchmark and that was 4 items. Thus the maximum value is 20 and the minimum value is 4. We used formula [(/n) x 4]; sum of value divided by number of items, then multiplied by 4.

Data collected were analyzed using the multiple regression analysis in order to establish the relationship of independent variables (academic-efficacy, mastery goal, performance approach goal, performance avoidance goal orientation) with the dependent variables (academic achievement).

4. Result

Table 1 presents the descriptive statistics for the research variable and the correlation between academic efficacy, mastery goal, performance approach goal, performance avoidance goal and academic achievement. The correlation on table below showed that academic efficacy significantly correlated with goal orientation ($r= .440$, $r= .252$, $r= .297$, $p<.05$), also there is a correlation between goal orientation and academic achievement ($r=.226$, $r=.126$, $r=.124$, $p < .05$). However, there is no correlation between academic efficacy and academic achievement.

Table 1: Mean, standard deviation, and correlation among research variables

Variable	Acad Achievement	Acad Efficacy	Mastery Goal	PApproach Goal	PAvoid Goal
Acad Achievement	1	.080	.226*	.126*	.124*
Acad Efficacy		1	.440*	.252*	.297*
Mastery Goal			1	.133*	.265*
PApproach Goal				1	.513*
PAvoid Goal					1
Mean	7.26	15.42	16.76	11.92	13.02
SD	1.25	2.20	2.20	2.74	2.59
N	199	199	199	199	199

*= significant< .05

The regression analysis using the enter method revealed the adjusted R square of the regression was .044, and $p < .05$. This implies that the academic efficacy and goal orientation has significantly impact to the academic achievement. Furthermore, to see the detail regression, we used the stepwise method and revealed that academic efficacy, performance approach goal, and performance avoid goal was excluded in the equation, and the adjusted R square increased to .046, and $p < .05$. Results of regression shown on table 2 revealed that only mastery goal orientation that can predict the academic achievement.

Table 2: Regression analysis among research variables

Variable	B	Beta	P
Acad Efficacy	-.030	-.053	.505
Mastery Goal	.131	.229	.004
PApproach Goal	.043	.094	.254
PAvoid Goal	.015	.031	.711

5. Discussion

The model of regression shows that mastery goal orientation significantly predict the academic achievement. This finding corroborates that mastery goal orientation as a significant contributor for academic achievement. It is relevant with the finding of Payne, Youngcourt [39] stated learning goal orientation to be positively related to learning and academic performance. Another finding stated that mastery goal often-positive predictor of performance [31-33].

The finding also relevant with the finding of Elliot and Church [22], Skaalvik [23], Urdan [24] which shows that academic efficacy positively correlated with goal orientation. The higher correlation are the correlation between academic efficacy and mastery goal orientation. This finding relevant with many studies, Zimmerman, Bandura [18] found that perceived efficacy to achieve motivate academic attainment directly and indirectly by influencing personal goal setting, Suprayogi [40] stated the relation of self-efficacy and goal orientation.

Looking to the score of goal orientation, we see that the highest score is on mastery goal, the mediate goal is performance avoidance goal, and the lowest goal is performance approach goal. This indicates that students tend to apply mastery goal than other two goal orientation. Mastery goal is the best orientation compared with the other goal orientation. They study for attaining competence as defined by task-based or intrapersonal standards, and not by normative standards. However, the finding showed that performance goal orientation and academic efficacy have no significant impact to the academic achievement. This is striking; as many research showed a significant impact to academic achievement[18]. This might be related to the research participants which are students of first and second year who still in the process of adaptation for the college study environment. We put this as our limitation of the study.

5.1. Conclusion and implication of the finding
The model of regression shows that academic efficacy and goal orientation has significant impact to the academic achievement. However looking forward to the stepwise regression analysis revealed that only mastery goal orientation which has significant impact to the academic achievement. In the context of Indonesian educational quality, this finding can be considered as one of the strategy to improve the student academic achievement in Indonesia.

5.2. Limitation of the study
The present study reflects a number of limitations. The first limitation related to the representatives for the entire population. The sample used in this study was limited to first and second year students in Bina Nusantara University in the psychology department. Consequently, the research result cannot be generalized to students of other study domain. Future research should replicate the study reported in this article with samples which are more representative for the entire population of higher education and country. The second limitation related to the research variable. This research variable focuses on academic efficacy and goal orientation of the student. In the further research it will be better if also include a broader variable inside and outside student; such as motivation, self-esteem, and also curriculum and the teacher instruction.

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