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Effects of Goal Orientations Endorsed on Academic Performance, Motivation and Cognitive Strategies of University Students

[1]Eshete Alemayehu Taye and [2]Jeudy Anne Monette
[1]The Hubei Provincial Key Lab of Human Development and Mental Health, Huazhong Normal University, China
[2]School of Psychology, Huazhong Normal University, China

Abstract: This study examined the impacts of goal orientations endorsed on academic performance, motivation and cognitive strategies, when attend academically difficult and challenging course. Participants were 93, 2nd and 3rd year Mechanical Department male students of Arbaminch University, Ethiopia. Thus, the research result in, there are high and positive correlation between performance approach and mastery ($r = 0.54$, $p<0.01$) as well as with performance avoidance goals ($r = 0.323$, $p<0.01$). Intrinsic value of the students positively associated to performance approach and mastery goal, whereas it has no significant correlation to performance avoidance goal. The goal endorsed is not significant predictor of students' performance. In addition, performance approach significantly negatively predicted ($\beta = -0.305$, $p<0.05$) disorganized cognitive strategies, whereas performance avoidance goal significantly positively predicted ($\beta = 0.254$, $p<0.05$). The higher the educational status of the mothers of students, the more chances of endorsing performance approach and mastery goal orientations $F (3, 89) = 3.19$ ($p<0.05$) and $F (3, 89) = 3.491$ ($p<0.05$), respectively.

Key words: Goal orientation, mastery goals, performance approach and avoidance goals, Ethiopian University students, cognitive strategies, academic performance, intrinsic motivation and value

INTRODUCTION

Theoretical framework of this study was the three achievement goal orientations theory that encompasses mastery, performance approach (P. Approach) and performance avoidance (P. Avoidance) goal orientations. Over the past two decades, the achievement goal approach to achievement motivation has become the predominant conceptual framework used to study behaviors in school, sport and work settings. Achievement goals are defined as the purpose or cognitive-dynamic focus of competence-relevant activity (Elliot, 1999) and the specific goal adopted is posited to influence how individuals interpret and experience achievement settings (Dweck, 1986; Nicholls, 1984). Mastery goal orientation focuses on developing one's competence and a performance goal orientation focus on demonstrating one's competence (Linnenbrink, 2005). Mastery goals orient the student toward learning and understanding, developing new skills and a focus on self-improvement using self-referenced standards. In contrast, performance goal represent a concern with demonstrating ability, obtaining recognition of high ability, protecting self-worth and a focus on comparative standards relative to other students and attempting to be best or surpass others. The main objectives of this study were to identify the type of goal orientation endorsed by Ethiopian universities students, when they encountered difficult and challenging courses. Which type of goal from the three was prevalent when students faced difficult and challenging career determining courses? How the endorsed goal related to the cognitive strategies adhered? What type of relationship observed between goal orientations and self efficacy? Do students' background information like family background (urban or rural based) and parental education status influences the type of goal orientation endorsed? How finding of this study related to the previous study that were conducted in area, where culturally and developmentally different from the area of this study? These are the questions and issues that were addressed through this study.

MATERIALS AND METHODS

The procedure of the activities was as follow: due to financial and man power problem Engineering Faculty of Arbaminch University was selected, then from the existing

Corresponding Author: Eshete, Alemayehu Taye, The Hubei Provincial Key Lab of Human Development and Mental Health, Huazhong Normal University, China

five departments, Civil, Electrical, Mechanical, Computer Science and Architectural Engineering one department was randomly selected. As a chance Mechanical Engineering was the department selected.

The initial task was to ask this students' interest, whether they participate in this study or not. All of the students, 93 in number, showed their interest to be part of the study. This was followed by asking students of 2nd and 3rd year Mechanical Department students to rank the subjects they were registered for 2nd semester, 2008/09 academic year, in order of difficulty and challenge they incur. From the inventory, it has been known that the subject Vibration for 3rd year and Machine Element for 2nd year students were considered the most difficult and challenging courses. Then students were made to fill the measuring instrument at four periods through out the semester. Information about goal orientation, self-efficacy, motivation and study strategies were gathered at different stage. The performance of students in these courses was collected after permission from the concerned officials. All participants of this study were male. Therefore, gender of the participants was not taken as sources of difference. The size of participants was very small and it had its own setback on the significance of variables relationship and difference.

In study of goal orientations and its impacts (scale appendix-C), the goal items were used to predict motivation and performance in a real-world setting, specifically for sophomore and above undergraduates taking an important and often career-defining course. This situation provides participants' sustained challenge and difficulty or encounter successive setbacks over the course of the semester (example of course general chemistry for engineering and science students) (Grant and Dweck, 2003).

The measures were presented in four sessions in the following sequence:

- Session 1 (2-3 weeks before first midterm) goal items, demographic information and self-efficacy scale
- Session 2 (1 week after session 1) intrinsic motivation, perception of the course vibration for third year and Machine Elements for second year 2008/09 academic year
- Session 3 (after first midterm) general study strategies (Elliot, 1999)
- Session 4 (before final exam) intrinsic motivation

The data collected were analyzed by implementing SPSS. Correlations of variable were seen to find out the relationship between variable in goal orientation, cognitive strategies and performance. Multiple regression and Analysis of Variance (ANOVA) were used to find out, whether or not goals endorsed predict cognitive strategies, motivation and self-efficacy of university students. ANOVA was done how the variations in the mean of family background of the participants influence the type of goals they endorsed and their self-reliance.

RESULTS

The goal orientations, performance approach, mastery and performance avoidance goal orientations related students' performance in the specified courses. No one variable was statistically significant. This finding was inconsistent to the previous finding in which performance of students predicted from the type of goal orientation endorsed by the students. The major factors that might have impacts on this study were the size of the participants (only 93) and the follow up was done with out the researcher has no role in the course delivered.

The relationship between goal orientation and other variables: The correlation Table 1 indicate that performance approach and mastery goal orientation have stronger correlation. Another important inter goal correlation coefficient demonstrate, the performance approach even further significantly correlate to performance avoidance goal. However, mastery goal orientation has no significant correlation to performance avoidance goal. This verify performance approach goal share some common features from both mastery and performance avoidance goals. The common feature that performance goal share differ with the type of goal, some what more common features share with mastery goal than performance avoidance. Intrinsic value of the students positively associated to performance approach and mastery goal orientations, whereas it has no significant correlation to performance avoidance goal. The intrinsic motivation and intrinsic value strongly correlated each other. The performance of students has no significant correlation to any goal orientation endorsed by the students, while it is positively and significantly associated to intrinsic motivation and intrinsic value.

Goal orientation as a predictor of cognitive strategies, self-efficacy, intrinsic value (motivation): Performance approach and performance avoidance goal endorsed by students predicted disorganized processing negatively and positively, respectively. Performance approach significantly predicted ($\beta = -0.305$, $p<0.05$) disorganized cognitive strategies. Disorganized cognitive strategy of learning involves inefficient and very poor in planning ones study time, inability to know, what to do? How to

Table 1: Correlations of goal orientations, motivations, cognitive strategies and performance

Factors	1	2	3	4	5	6	7	8	9	10
P. Approach		0.537**	0.323**							
Mastery	0.537**		0.227*							
P. Avoidance	0.323**		0.227*							
Self-efficacy	0.73**	0.528**	0.295*							
Intrinsic mot.						0.531**				
Intrinsic value	0.292**	0.223*								
Deep processing										
Surface processing										
Disorganized proc.										
Performance					0.233*	0.344**				

*Correlation is significant at the 0.05 level (2-tailed), **Correlation is significant at the 0.01 level (2-tailed)

do? When to do?, regarding the course they are attending. Therefore, these cognitive activities were not characteristics of those students, who endorsed performance approach goal. It is rather a typical characteristic of those students who endorsed performance avoidance goal ($\beta = 0.254$, $p<0.05$). The result is inconsistent to the previous finding (Grant and Dweck, 2003), which found out that disorganized processing is a characteristic of normative goal including performance goal. In this study, deep processing and surface processing were not significant to goal orientations.

Performance approach goal significantly predicted intrinsic value, whereas performance avoidance goal predicted negatively, though it was significant. The mastery goal is not significant to intrinsic value. This finding is inconsistent to the previous finding that considered that mastery goal positively related to adaptive behaviors, while performance approach related to maladaptive behaviors (Ames and Archer, 1988; Butler, 1993; Elliott and Dweck, 1988; Meece *et al*., 1988). The type of goal endorsed by the students predicts the self-reliance expressed by the students. In this study, both those students who endorsed performance approach and mastery goal orientation demonstrated high level self-efficacy; $\beta = 0.612$, $p<0.0001$ and $\beta = 0.187$, $p<0.05$, respectively. But performance avoidance goal is not significant.

Background information as a source of variation in goal orientations and self-efficacy: The distribution of participants mothers educational status were, illiterate = 36, primary complete = 26, secondary complete = 24 and higher education = 7. Since fathers' educational status was not significant, no need to mention.

There was statistically significant mean difference due to the improvement of mothers educational status for students to endorse performance approach and mastery goal orientation $F(3, 89) = 3.19$ ($p<0.05$) and $F(3, 89) = 3.491$ ($p<0.05$), respectively. The performance avoidance goal was not significant due to mothers' educational status. Similarly mothers' educational status brings a difference in self-efficacy of the students $F(3, 89) = 3.375$ ($p<0.05$). Those students, whose mothers have primary and/or secondary school experience have demonstrated high self-reliance than those students whose mothers' were illiterate. The numbers of students, whose mothers attended higher education was very few so its representation of the students was not significant. Another background variable that influenced students' goal orientation was family background, whether they come from the urban or rural side of the country?

The number of participant, who are rural based were 33 and urban based were 60. There was significant difference in endorsing mastery goal in favor of rural based students $F(3, 89) = 4.392$ ($p<0.05$). Rural based students better endorsed mastery goal orientation compared to their urban counterparts.

DISCUSSION

This study aimed at identifying the impact of goal orientation endorsed by university students' on academic performance, motivation, study strategies and self efficacy, when they encountered academically difficult and challenging course.

From the relationship among goal orientations, one can see performance approach goals positively related both to mastery and performance avoidance goal. However, the strength of relationship was very high with mastery goals than performance avoidance. These tell us that performance approach goals possess in common some qualities with mastery and performance avoidance goals.

For instance, intrinsic value was positively related both to performance approach and mastery goals orientation. Therefore, the manner in which the previous finding coined mastery goals with a host of adaptive behaviors and performance goal with a host of maladaptive behaviors' should be considered. It is the performance avoidance goals orientation that embodies a host of maladaptive behaviors.

The finding of this study strengthen some findings in the literature that indicate the empirical results from correlational studies with survey data have found that mastery and performance goals may be negatively correlated, uncorrelated or even positively correlated. Some of this variance in empirical results is due to methodological considerations such as use of different measures, designs and age of participants. Nevertheless, there is a need to clarify the relations between mastery and performance goals both theoretically and empirically. Results of these findings support the positive relationship between mastery and performance approach goals; in other words it reflects that the two goals share some of their adaptive behaviors. However, their will be a need further investigations to identify the shared one from unshared; this is so because performance approach goals also share some maladaptive behaviors with performance avoidance goals.

Most of the previous finding express the adaptive nature of mastery goals, while emphasizes the maladaptive nature of performance goal. This situation clearly expressed in the following finding: for performance oriented individuals, their focus on proving their competence, worth and likeability with normative evaluative standards has implications for how they view failures. They usually see themselves how much they perform relative to other. Threats to self-worth, when a task is challenging can be debilitating for one's regulation in academic behaviors (Harackiewicz *et al*., 1998; Midgley *et al*., 2001).

The types of goal endorsed by the students have not predicted the career determining courses performance. All of the three goal types endorsed by students have no significant influence in predicting the performance of the students in the difficult and challenging courses. Students' performance correlated to the mastery goal (0.068), performance approach (0.04) and performance avoidance (-0.071) but the relationships were not significant. This was inconsistent to the previous finding (Grant and Dweck, 2003). The discrepancy between the present and the previous studies might be due to the methods like in the present study the researcher has no control of the material learned and the students not supplied by incentives in the form of grade for being parts of the study. In addition, the sample size also matter, in this study the participants were only 93 from 2nd and 3rd year university students. These dissimilarities might cause for the discrepancy between the present and previous studies. However, there is consistence between this study and studies by Pintrich and Garcia (1991) examined correlations of single goals with grades and reported small positive correlations between mastery ($r = 0.18$) and performance ($r = 0.08$) goals and grades in a college sample but neither was significant. Goal orientations endorsed by students have predicted the cognitive strategies to withstand the challenge and difficulty encountered by the course. Disorganized cognitive strategy significantly positively and negatively predicted performance avoidance and performance approach goals, respectively. Those students, who endorsed performance approach goal did not demonstrate a difficulty in managing there time effectively, they know what to do, how to do, when encountered the challenge incurred by the course. However, those students who endorsed approach avoidance goal have faced problem in managing their time effectively and efficiently. They lack the skill how to prepare themselves in the face of difficulty and challenge. Mastery goal was no significant to any type of cognitive strategies, deep processing, surface processing and disorganization. This finding is inconsistent to the previous findings that matched mastery with a host of adaptive, whereas performance with maladaptive behaviors.

Another important deviation of this study from the previous is performance approach endorsed students demonstrated significant intrinsic value, where as mastery goal endorsed not (Ames and Archer, 1988; Archer, 1994; Harackiewicz *et al*., 1997; Miller *et al*., 1993; Nicholls *et al*., 1985). Regarding the relationship between goal endorsed and self-efficacy, performance goal endorsed students demonstrated very high significant compared to those, who endorsed mastery goal. Still these finding tell as something different from the previous study that performance approach goal endorsed students better possess a host of adaptive compared to mastery endorsed students.

Parental education, mothers' and fathers' educational status have been related to the goal endorsed by the students. Mothers educational status was an important factor for the type of the goal selected.

As the education of mothers' raises students endorse more performance approach and mastery goal in their academic, whereas fathers' educational status has no significant influence on the goal. The influence of mothers' educational status further has been observed in the areas of students' self reliance on their academic. Those students whose mothers have primary and/or secondary school experience have demonstrated high self-reliance than those students, whose mothers' were illiterate.

Family background, being raised in the rural or urban, has been observed as a source of difference in the preference of one type of goal than the other. Students, who reared in the country side significantly endorsed

mastery goal than those, who are urban reared. This discloses that students background influence the type of goal they endorse. There are many social and cultural factors that play a role by being from the country or urban side either for good or ill.

CONCLUSION

The performance approach goals orientation share some features both from mastery goals and performance avoidance goals. However, these common features are more with mastery than performance avoidance goals. This study verifies the previous studies in these areas that concluded goal orientation endorsed by students has no consistent and significant relationship to students' performance. Another important conclusion one draw from this study is not only mastery goal orientation endowed by a host of adaptive behaviors but also performance approach goal endorsed students have showed significant host of adaptive behaviors. It is the performance avoidance goal endorsed students demonstrated a host of maladaptive behaviors.

Background information like educational status of mothers' and being raised in urban or rural side of the country has significant impact on the type of goals endorsed. An increase in mothers' educational status has significant influence in endorsing performance approach and mastery. In addition, rural raised students significantly endorsed mastery goals than their urban counterparts. This study tries to indicate future research direction, replicating this study in a situation in which the researcher has more control on the course delivered and the students/participants of the study should be rewarded by additional incentive like extra grade.

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