

Contents lists available at [ScienceDirect](#)

Kasetsart Journal of Social Sciences

journal homepage: <http://www.elsevier.com/locate/kjss>

Relationship between motivational goal orientations, perceptions of general education classroom learning environment, and deep approaches to learning



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ARTICLE INFO

Article history:

Received 26 September 2014

Received in revised form 4 December 2014

Accepted 20 January 2015

Available online 15 June 2016

Keywords:

classroom learning environment
deep approaches to learning
motivational goal orientations

ABSTRACT

Researchers have reported empirical evidence that the deep approaches to learning account for significant successful learning. The present study aimed to investigate the relationship between students' motivational goal orientation, their perceptions of the general education classroom learning environment, and deep approaches to learning strategies. Participants (N = 494) were first- and second-year college students enrolled in any of the general education courses in higher education in Thailand. All samples were chosen using the convenience sampling technique. They completed a self-report questionnaire for measuring motivational goal orientation, perceptions of classroom learning environment, and the level of taking deep approaches to learning. To analyze the relationship between several independent variables and a dependent variable, multiple regression analyses were used and a positive influence was found of motivational goal orientation and perceptions of general education classroom learning environment on the level of taking deep approaches to learning. These results suggest promoting the deep approaches to learning by students through their individual personal attributes and classroom learning environment factors.

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Introduction

General education (GE) refers to the fundamental education that complements the more specialized learning undertaken in a student's chosen field of study. GE prepares students for the certain body of knowledge and valuable skills, which they should possess for life-long learning. Most objectives of the GE program are guided by "the Framework for 21st Century Student Outcomes" for example, critical thinking, problem solving, appropriate written and spoken communication skills, information

literacy skills, and life and career skills (P21Members, 2002). To achieve these, deep approaches to learning are a key factor considered in the process of GE and its evaluation (Bresciani, 2007). Furthermore, evidence suggests that deep approaches to learning were emphasized by the faculty teaching GE courses (Nelson Laird & Garver, 2010).

Deep approaches to learning describe the combination of students' learning strategies and students' motivations aimed toward their own personal development, and being more intent on understanding the materials. Students engaged in the deep approaches to learning desire to seek and understand meaning in what they learn rather than trying to memorize it. They relate the new ideas to existing prior knowledge, leading to an understanding and long-term retention of concepts (Biggs, 1987; Biggs, Kember, & Leung, 2001; Donnon & Hecker, 2008; Duff & McKinstry,

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Peer review under responsibility of Kasetsart University.

2007; Hall, Ramsay, & Raven, 2004). More recent studies on the association between students' approaches to learning and students' learning outcomes (for example, Chamorro-Premuzic & Furnham, 2008; Snelgrove & Slater, 2003; Struyven, Dochy, Janssens, & Gielen, 2006) showed that deep approaches to learning were positively related to high quality learning outcomes.

Studies in the literature indicated that students' approaches to learning can change and be affected by their individual personal attributes and learning contexts (Biggs, 1978, as cited in Hall et al., 2004). For example, from the studies of Elliot (1999) and Elliot and McGregor (2001), we can infer that students' motivational goals (their purposes in learning or what they want to achieve) influenced their approaches to learning (as cited in Cano & Berbén, 2009). Research also indicated that students adapt their learning approach to their perceptions of the learning environment (for example, task or workload, teaching, assessment, and learning objective) (see Biggs, 1987; Dart et al., 1999; Lublin, 2003; Ramsden, 1992).

Although there is some research regarding the influence of individual personal factors and learning context factors toward students' adoption of approaches to learning, there are few that examine them by combining both factors in the same study. Moreover, most prior research has studied in general or within specific academic areas such as science or mathematics or accounting, but very little attention has been paid to investigation in the classroom learning environment of the GE context.

Considering the theoretical perspective in this study, we focused on one aspect of students' personal attributes—motivational goal orientations and their perceptions of learning context—that is, the perceptions of the psychosocial characteristics of the classroom learning environment. Consequently, two main theories were selected. Firstly, according to the research literature, motivational goals refer to different individual purposes or goals for engaging in an achievement situation (Dweck & Leggett, 1988; Elliot & Church, 1997; Van Yperen, Elliot, & Anseel, 2009). Recently, researchers have focused on the concept of the 2×2 achievement goal framework which identifies four distinct orientations: (1) Mastery-approach where the focus is on improving abilities and developing competencies, (2) Mastery-avoidance is defined in terms of striving to avoid misunderstanding or failing to learn course material, (3) Performance-Approach focuses on social comparison in the desire to outperform others, and (4) Performance-Avoidance focuses on social comparison in avoiding failure, looking incompetent and being judged to have low ability (Elliot, 1999; Elliot & Church, 1997; Elliot & McGregor, 2001). Based on these studies, each individual's personal attribute variable was measured by examination of their adoption of the 2×2 achievement goal orientation framework.

Secondly, the learning context variable used in this study emphasized the concept of classroom learning environment perceptions. These perceptions were assessed in terms of: (1) meaningfulness of the content for student needs, (2) autonomy in the classroom, (3) involvement in the class discussions and activities, (4) cooperation among the students, and (5) competition among the students (Koul, Roy, & Lerdpornkulrat, 2012).

The study reported in this article contributes to further understanding of the conditions useful for promoting the students' adoption of deep approaches to learning in the GE classroom. This study investigated the following research questions:

1. What are the predominant motivational goal orientations and perceptions of classroom learning environment of college students enrolled in GE classes?
2. What is the influence of students' motivational goals and their perceptions of GE classroom learning environment on the level of taking deep approaches to learning?

Materials and Methods

Sample

Sampling in this study involved 494 first- and second-year college students in higher education from Srinakharinwirot University, Thailand. It was comprised of students from six different classrooms with a range from 72 to 88 students per class during the second-semester. All students were enrolled in any of the GE courses and were chosen using the convenience sampling technique which is one of the non-probability sampling methods. There were 192 (38.9%) males and 302 (61.1%) females in the sample. They completed the self-report survey instruments that were administered in GE classrooms toward the end of the academic year.

Instruments

The survey in this study consisted of four sections. The first section of the survey asked for general information (gender, faculty, major, GPA). The second section of the survey measured motivational goal orientation using 21 items (for example, "I like to perform tasks because this makes me learn new things"). The third section of the survey assessed perceptions of the GE classroom learning environment using 24 items (for example, "In GE classes, most students are expected to work cooperatively with one other"). The last section of the survey assessed the level of taking deep approaches to learning with six items (for example, "I work on several examples of the same type of problems so that I understand the problems better"). The motivational goal orientation items were adapted from previous achievement goal orientation surveys (for example, Elliot & McGregor, 2001; Poondej, Koul, & Sujivorakul, 2012). The perceptions of GE classroom learning environment items were adapted from classroom learning environment surveys developed by previous researchers (Koul et al., 2012). The deep approaches to learning items were adapted from the measurement of deep strategy use in learning (see Miller, Greene, Montalvo, Ravindran, & Nichols, 1996). In the second, third, and fourth sections of the survey, we used a five-point (Likert-type) response scale from strongly disagree (1) to strongly agree (5), with larger values indicating a stronger score.

Analysis and Results

To determine the internal consistency reliability of the instrument for a sample of examinees, Cronbach's alpha coefficient, a statistical technique, was performed. An alpha coefficient value is considered acceptable above a threshold of .6 (George & Mallery, 2003; Kline, 2000). Alpha values for the mastery-approach goal, mastery-avoidance goal, performance-approach goal, performance-avoidance goal, cooperation learning environment, competition learning environment, meaningfulness learning environment, autonomy learning environment, involvement learning environment, and deep approaches to learning as subscales were .752, .859, .830, .836, .758, .834, .832, .836, .844, and .790, respectively.

Table 1 presents the means and standard deviations for each measure of motivation goal orientations, perceptions of GE classroom learning environment, and deep approaches to learning. We found that students were more oriented toward mastery-approach goals and less oriented toward performance-avoidance goals, than the other goals. Across the five perceptions of GE classroom learning environment, students had the highest score for perceptions of the cooperation environment, and the lowest score for perceptions of competition environment. Also, students often took deep approaches to their learning.

Table 2 presents the results of simultaneous regression analyses. The measure of deep approaches to learning functioned as a criterion variable, while motivational goal orientations and perceptions of GE classroom learning environment functioned as influence variables. Statistical analysis confirmed that the assumption of independent errors was tenable. The Durbin–Watson statistic was close to 2, which indicates that there was no auto-correlation. Variance Inflation Factor values were well below 10, tolerance statistics were well above .2, and after examining the correlations and associations between independent variables to detect a high level of association, there were no high bivariate correlations, which means that there was no multi-collinearity within the data.

According to the regression analysis results, the regression models predicting the adoption of deep approaches to learning were statistically significant (the beta coefficient values and adjusted R^2 value are shown in Table

Table 1
Descriptive statistics

	(n = 494)	
	\bar{X}	SD
Motivational goal orientations		
Mastery-Approach	4.10	.45
Mastery-Avoidance	3.54	.80
Performance-Approach	3.28	.73
Performance-Avoidance	2.73	.91
Perceptions of GE classroom learning environment		
Cooperation	4.00	.66
Competition	2.99	.82
Meaningfulness	3.93	.67
Autonomy	3.65	.65
Involvement	3.93	.54
Approach to learning		
Deep approach	3.57	.59

Table 2

Linear regression: Influence of motivational goal orientation and perceptions of GE classroom learning environment on deep approaches to learning

Influence variable	Parameter estimates		
	beta	t	p
Motivational goal orientation			
Mastery-Approach	.215	4.991	.000**
Mastery-Avoidance	.016	.374	.708
Performance-Approach	.077	1.521	.129
Performance-Avoidance	-.081	-1.444	.149
Perceptions of GE classroom learning environment			
Cooperation	.139	2.736	.006**
Competition	.142	3.179	.002**
Meaningfulness	.004	.076	.939
Autonomy	.237	4.733	.000**
Involvement	.078	1.443	.150

** $p < .01$, adjusted $R^2 = .293$

2). Mastery-approach goals, perceptions of cooperation, competition, and autonomy environment had a positive influence on the level of taking deep approaches to learning. Mastery-approach goal orientation and autonomy environment were the most influential variables included in the regression model. In addition, the amount of variance in the dependent variable that can be explained by the model was .293 (adjusted R^2). This means that the model explained 29.3 percent of the variance.

Discussion and Conclusion

The purpose of this study was, first, to assess the predominant motivational goal orientations and perceptions of classroom learning environment of college students enrolled in GE classes and, second, to investigate the influence of students' motivational goals and their perceptions of GE classroom learning environment on the level of taking deep approaches to learning.

This study revealed positive associations between the 'mastery-approach goal' and the level of taking deep approaches to learning. Previous researchers into the relationship between personal motivational goal orientations and learning strategies clearly demonstrated that a mastery goal generally predicts the use of learning strategies (see, for example, Cano & Berbén, 2009; Grant & Dweck, 2003; Greene, Miller, Crowson, Duke, & Akey, 2004). Students, who endorse a mastery goal (the purpose is to improve their competence, acquire new knowledge or skills), are found to engage in deeper learning strategies. This study provided results consistent with previous research.

An analysis of the data also provided evidence for the positive effects of students' perceptions of GE classroom learning environment on the level of taking deep approaches to learning. These results seem to indicate that the more students perceived their GE learning environment as cooperation, competition, and autonomy, the more likely they were to take deep approaches to learning. Especially, among the perceptions of GE classroom learning environment, students' perceptions of autonomy (that is, students have the opportunity to manage their own learning) were the most influential factors in determining

the way they take a deep approach to learning. This is in accord with previous research (Duff & McKinstry, 2007).

Because of the limitation of the survey methodology, this study could not provide explanatory analysis. This study only assessed the general patterns of the associations between motivational goal orientations, perceptions of GE classroom learning environment, and the level of taking a deep approach to learning.

In conclusion, to gain a better understanding of how to promote using a deep approach to learning of students in GE, this study utilized particular perspectives of individual personal attributes and learning context as predictor variables of the adoption of deep approaches to learning. Motivational goal orientations as an individual personal attribute and perceptions of classroom learning environment as learning context were examined. The major findings suggest that a combined emphasis on the mastery-approach goal and perception of autonomy classroom learning environment are more beneficial. In the GE classroom, if teachers want their students to engage in deeper learning strategies, then it could be beneficial to encourage them in mastery learning (focus on themselves and improving their abilities and competencies), and emphasize the classroom learning environments in which students are given considerable individual autonomy. They have the freedom to manage their own learning.

As the results in this study also provided evidence for the positive effects of not only perceptions of autonomy, but cooperation and competition also on taking a deep approach to learning, it is suggested that future research should look at promoting students' adoption of deep approaches to learning through interaction among these perceptions of the GE classroom learning environment. Furthermore, the self-report techniques used in this study have many advantages, but they also suffer from specific disadvantages. For example, self-reporting can be caused by recall bias. Students may be too embarrassed to reveal private details or what they really think and feel. To obtain accurate information in a survey, therefore, the researcher may consider observational techniques as a research methodology.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

Acknowledgments

This research study was funded by Innovative Learning Center of Srinakharinwirot University (Grant Number: 640/2558).

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