

The Relationship between Academic Engagement and Positive and Negative Emotions of Learning and Self-Regulated Learning

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ABSTRACT: This research discusses on the investigation of the relationship between academic engagement and positive and negative emotions of learning and self-regulated learning. The study population of this research includes all students of the Faculty of Humanities Islamic Azad University that they are about 4000 people and of them, 370 people of girl students were selected randomly as a sample. The questionnaire used in this study consists of three self-regulated – academic emotion questionnaires and motivational strategy questionnaire for learning (MSLQ). Data analysis was performed using SPSS software. The results of correlational coefficient showed that the variable of their correlational coefficient for two variables of self-regulated learning and academic engagement were $r = 0.504$ and $\text{sig} = 0 < 0.01$. Also, the variable of their correlational coefficient for two variables of self-regulated learning and academic positive emotions are $r = 0.213$ and $\text{sig} = 0 < 0.01$. Therefore, there is a relationship between academic engagement and self-regulated learning and academic positive and negative emotions.

Keywords: Academic Engagement, Positive and Negative Emotions of Learning, Self-Regulated Learning.

INTRODUCTION

Academic engagement is a structure which was raised first to understand and explain the drop and academic failure and considered as the basis for reform efforts in the field of education. Patterns and different models of academic engagement are provided. In the pattern of Fin (1983), academic engagement consists of two emotional and behavioral components (behavioral such as assignment and emotional such as the value of the assignments and learning). However, a review of recent studies shows that academic engagement is multi-dimensional structure that consists of various cognitive, emotional and behavioral components (Feredricks et al., 2004).

What are often overlooked in the education process are processes and beliefs of individual autonomy. Recently, several studies show that self-regulated processes and beliefs of self-learners and self-efficacy advance and academic motivation have a significant and positive relationship (Azevedo, 2009; Bembenuddy, 2011; quoted by Mirafshar et al., 2012). Self-regulated is a contracture raised first by Bandura (1986) and covers a wide range of behaviors. Bandura believes that self-management includes three component processes: self-observation, self-assessment and self-reaction. To carry out these processes, it is essential to have a clear goal. Goal orientation represents a consistent pattern of beliefs of the individual that causes the people orientate to situations in different ways and deals with that field and finally, provide a response. This orientation in training positions represents the

motivation of the individual from studying and for this purpose, desires affect actions and responses to situations of learning.

Boukarts (2002; quoted Bembenutty, 2011) considers education of self-management skills to learners as the main purpose because the person directs with these skills his learning not only in academic periods, but after graduation, the individual can adapt their knowledge coincides with knowledge. In the pattern of self-regulating learning of Boukarts, equal situations to cognitive self-regulating engagement of and self-motivation to learn of learning are assumed.

Emotions and feelings are among learner personality dimensions that are present throughout the learning process and affect learning self-regulation. Pekrun (2006) identified special excitements of learning, teaching and achievement and introduced as the academic emotions. Academic emotions are directly tied to educational activities or educational outcomes. Therefore, the excitements associated with activities related to education are considered academic emotions. However, derived from learning, classroom training fatigue and frustration and angers caused by difficult assignments are some examples of emotions related to school activities (Pekrun, 2006). Based on the pattern of Pekrun, the effect of emotions on learning and progress by a number of mechanisms of cognitive and motivational mediating is caused including motivation to learn, learning strategies, cognitive resources and, above all, self-learning.

The research on the condition which can improve the performance of learners in educational settings and outside is important both theoretically and practically because this not only results in new knowledge on human behavior, but this provides the kind of educational environment in which the growth of learners is provided and facilitated. Therefore, today, the attention to this important structure in the process of memories of learning and discovering of variables such as positive and negative emotions and academic engagement which can predict this variable is very important in education and the purpose of this research is the relationship between the variables of academic engagement and positive emotions (joy and hope in the class) and negative (anxiety, anger and frustration of the class) to predict self-regulated learning. In this regard, the following hypotheses were discussed:

1. There is a relationship between academic engagement and positive emotions in anticipation of self-regulated learning.
2. There is a relationship between academic engagement and negative emotions in anticipation of self-regulated learning.
3. There is a relationship between academic engagement and self-regulated learning.

Review of literature

Nikdel et al (2012) in a research entitled "the relationship between academic self-concept, positive and negative academic emotions and self-regulated learning concluded that academic emotions were able to predict self-regulated learning which of them, fatigue variable had the highest class of predictive power.

Hejazi et al (2008) in a research entitled "a prediction model of mathematics achievement of objectives and progress of academic engagement" showed that mastery goals through metacognitive strategies to positively affected academic achievement indirectly and the role of mediations of dimensions of academic engagement in the relationship between achievement goals and mathematics achievement was confirmed.

Darling Hammond et al. (2007) in a research stated that emotions often affected learning and states of mind and body were affected and physiological, cognitive and behavioral reactions should be considered that they were performed for new management positions of leadership. He and his colleagues emphasized on the impact of positive and negative emotions on learning (quoted by Hejazi et al., 2008).

MATERIALS AND METHODS

The present research has been descriptive based on correlation. The study population of the sample included all girl and boy students of the Faculty of Humanities and Arak Islamic Azad University that they were 4000 people and 370 people of girl and boy students were selected using Morgan and Krejcy sampling Table and they responded to the questionnaires of academic learning, positive and negative emotions and self-regulated learning. To analyze the data, SPSS statistical software and statistical tests, regression and Pearson correlation coefficient were used.

Measurement Tools

Self-regulating questionnaire: this questionnaire includes 14 questions designed by Boufard et al (1995) and normalized by Kadivar (2001). General reliability coefficient of the questionnaire based on Cronbach's alpha is obtained 0.71. Subscale reliability of cognitive strategies has been reported 0.70% and meta-cognitive subscale 0.68. The above test reliability in a research performed in 2003 by Gholami has been reported 0.63.

Academic excitement questionnaire: this tool was designed and built to measure students' academic emotions by Pekrun et al (2005). This questionnaire is based on a self-report, paper and pencil type and has three components which include the section of excitements related to the class, learning and testing. There are eight subscales in each section. The subscales related to the class consist of 80 questions. Subscales Cronbach's alpha of 75% to 95% is obtained that indicates the acceptable reliability of this tool (Pekrun et al., 2005). In this questionnaire, the students graduate their emotional experiences in a Likert scale of 5 degrees from absolutely disagree (1) to absolutely agree (5) (Kadivar et al., 2009).

Motivational Strategies for Learning Questionnaire (MSLQ): this questionnaire was prepared and designed by Pintrich and De Groot (1990). To measure four dimensions of academic engagement, superficial and deep processing strategies (cognitive academic engagement), the stability of the task (academic engagement behavior), task value (academic engagement emotional) and emotional help were used official or academic learning (behavior - social) subscales of learning strategies, the task set and help-seeking efforts in MSLQ performed by Pintrich and De Groot. The four subscales have been measured with 28 items that all questions are marked on a Likert 5 points (always incorrect = 1, always correct = 5). Pintrich (1994) assessed the questionnaire internal consistency using Cronbach's alpha coefficient and the value of coefficients have been reported 0.90, 0.69, 0.75, 69.64 and 0.59 for the subscales of the task, learning strategies (rehearsal), deep learning strategies (elaboration and organization), setting up attempt and help seeking, respectively.

RESULTS

First hypothesis: there is a relationship between student academic engagement and positive emotions in anticipation of self-regulated learning.

Table 1. The analysis of the variance of regression test with the dependent variable of self-regulated learning.

Model	SS	df	MS	Statistics (F)	Sign.
The dependent variable through the dependent variable	22.419	2	11.209	66.465	0.000
The dependent variable through random factors	63.815	367	0.174		
Total	86.233	369			

Table 2. The correlation coefficient Table of academic engagement, positive emotions and self-regulated learning.

		self-regulated learning	academic engagement	positive emotions
Self-regulated learning	Pearson correlational coefficient	1	0.504	0.213
	Significant level		0.00	0.00
	Number	370	370	370
Academic engagement	Pearson correlational coefficient	0.504	1	0.271
	Significant level	0.00		0.00
	Number	370	370	370
Positive emotions	Pearson correlational coefficient	0.213	0.271	1
	Significant level	0.00	0.00	
	Number	370	370	370

Table 3. Coefficients of the regression equation of regression test with dependent variable of self-regulated learning.

Model	Not standardized coefficients		Standardized coefficients	(t) statistics	Sign.
	B	Std. Error			
Fixed value	1.568	0.201		7.815	0.000
Academic engagement	0.692	0.067	0.481	10.316	0.000
Positive emotions of education	0.154	0.031	0.182	3.766	0.008

Given the significant level for regression coefficient of self-regulated learning variable ($\text{sig} = 0.00 < 0.05$), the null hypothesis of zero coefficient value will be rejected. As a result, it can be said that per unit increase in academic engagement, self-regulated learning will increase by 0.481 units (due to the positive regression coefficient) and per unit increase in positive emotions in education, self-regulated learning will increase by 0.213 units (because of being positive regression coefficient) and given that the regression coefficient is significant, therefore, with a confidence level of 95%, the research hypothesis on that there is a relationship between student academic engagement and positive emotions in anticipation of self-regulated learning is confirmed.

Second hypothesis: There is a relationship between academic engagement and negative excitements of education in anticipation of self-regulated learning.

Table 4. The analysis of the variance of regression test with the dependent variable of self-regulated learning.

Model	SS	df	MS	Statistics (F)	Sign.
The dependent variable through the dependent variable	33.813	2	16.906		
The dependent variable through random factors	52.421	367	0.143	118.362	0.000
Total	86.233	369			

Table 5. The correlation coefficient Table of academic engagement, negative emotions and self-regulated learning.

		Self-regulated learning	Academic engagement	Negative emotions
Self-regulated learning	Pearson correlational coefficient	1	0.504	-0.165
	Significant level		0.00	0.00
	Number	370	370	370
Academic engagement	Pearson correlational coefficient	0.504	1	0.360
	Significant level	0.00		0.00
	Number	370	370	370
Negative emotions	Pearson correlational coefficient	-0.165	0.360	1
	Significant level	0.00	0.00	
	Number	370	370	370

Table 6. Coefficients of the regression equation of regression test with dependent variable of self-regulated learning.

Model	Not standardized coefficients		Standardized coefficients	(t) statistics	Sig.
	B	Std. Error			
Fixed value	1.866	0.176		10.603	0.000
Academic engagement	0.931	0.063	0.647	14.839	0.000
Negative emotions of education	-0.241	0.026	-0.399	-9.142	0.008

Given the significant level for regression coefficient of self-regulated learning variable ($\text{sig} = 0.00 < 0.05$), the null hypothesis of zero coefficient value will be rejected. As a result, it can be said that per unit increase in academic engagement, self-regulated learning will increase by 0.647 units (due to the positive regression coefficient) and per unit increase in negative emotions in education, self-regulated learning will reduce by 0.399 units (because of being negative regression coefficient) and given that the regression coefficient is significant, therefore, with a confidence level of 95%, the research hypothesis on that there is a relationship between student academic engagement and negative emotions in anticipation of self-regulated learning is confirmed.

Third hypothesis: There is a relationship between academic engagement and self-regulated learning.

Table 7. The analysis of the variance of regression test with the dependent variable of self-regulated learning.

Model	SS	df	MS	(F) Statistics	Sign.
The dependent variable through the dependent variable	21.876	1	21.876		
The dependent variable through random factors	64.375	368	0.175	125.090	0.000
Total	86.233	369			

Table 8. The correlation coefficient Table of academic engagement, positive emotions and self-regulated learning.

		Self-Regulated Learning	Academic Engagement
Self-regulated learning	Pearson correlational coefficient	1	0.504
	Significant level		0.00
	Number	370	370
Academic engagement	Pearson correlational coefficient	0.504	1
	Significant level	0.00	
	Number	370	370

Table 9. Coefficients of the regression equation of regression test with dependent variable of self-regulated learning.

Model	Not standardized coefficients		Standardized coefficients	(t) statistics	Sign.
	B	Std. Error			
Fixed value	1.666	0.193		8.624	0.000
Academic Engagement	0.724	0.065	0.504	11.184	0.000

Given the significant level for regression coefficient of self-regulated learning variable ($\text{sig} = 0.00 < 0.05$), the null hypothesis of zero coefficient value will be rejected. As a result, it can be said that per unit increase in academic engagement, self-regulated learning will increase by 0.504 units (due to the positive regression coefficient) and given that the regression coefficient is significant, therefore, with a confidence level of 95%, the research hypothesis on that there is a relationship between student academic engagement and self-regulated learning is confirmed.

DISCUSSION AND CONCLUSION

The purpose of this research was to study the academic engagement and positive and negative emotions of learning and self-regulated learning. The results of stepwise regression analysis about self-learning show that among the predictor variables, only linear combination of four variables fatigue, hope, joy and anxiety of words can explain the variance of autonomy. The results showed that there was a positive relationship between positive emotions (joy and hope) and autonomy. In contrast, there is a negative relationship between negative emotions (fatigue) and autonomy. This finding is consistent with the results of the research of Pekrun et al (2002); Tytz (2001; quoted by Pekrun, 2006). Based on the results of the research of Izon (2000; quoted by Pekrun, 2006), this excitement is

consistent. Positive emotions activated such as joy of learning, creative learning strategies facilitate cognitive and metacognitive strategies flexibility in accordance with the objectives and tasks required. The results showed that fatigue of the class had the most power in forecasting the variance of self-learning autonomy. Autonomy in learning is an active process and the learner of autonomy should be active. No doubt, a student who is tired, even if he is present in the classroom and he imagines, he will not become an active learner. But a student who enjoys the class activities and hope success in them, he will actively participate in the process of his learning.

The study of Pekrun et al (2002) showed that all positive emotions with the uses of cognitive and metacognitive strategies (elaborating and organizing) and critical thinking were positively associated. However, the relationship of some negative emotions such as anxiety is most mutual (Pekrun et al., 2002). In the present research, the coefficient of survival of anxiety in predicting learning autonomy was also positive. This means that as Pekrun (2006) assumes that some of the negative emotions activated such as anxiety can also have a positive effect on the level of cognitive strategies. Overall, it can be concluded that positive emotions such as joy of class facilitate autonomy of learning, while negative emotions such as boredom have a negative effect on autonomy of learning. The results of correlational analysis on the relationship between academic autonomy and the other academic components show that there is a significant and positive relationship between autonomy learning and all variables of academic engagement except for help-seeking in the level of $P < 0.001$. The present findings on the relationship between autonomy learning and attempt by the results of several studies are confirmed. For example, Schunk (1989 and 1991; quoted by Schunk, 2008) concluded that people with strong autonomy beliefs were more likely to attempt in the face of problems and when they had the necessary skills, they insisted on an assignment. He showed that he could predict the judgments of autonomy of attempting.

In conjunction with the autonomy learning and cognitive and metacognitive strategies of Pintrich and De Groot (1990), the positive correlation is reported 33% and 44%, respectively between the autonomy learning and cognitive and metacognitive strategies. Pintrich (1994), Wolters and Pintrich (1998) and Wolters et al (1996) in the studies which were always correlational and use autonomy reports, cognitive and self-regulating strategies showed that high autonomy beliefs with the increase in the use of deeper processing strategies such as developing and organizing strategies and metacognition strategies over time were linked. Pintrich and De Groot (1990) showed that self-regulation, self-regulation and the use of cognitive strategies are positively correlated and predict progress. The studies of Karabenick and Knapp (1991), Newman (1990) and Pintrich and Schunk (1996) showed that the students who were weak and poorly performance, they were less likely to seek help. Also, it seems that seeking help is a variable which is linked with social and cultural factors or even related to culture. In addition, perhaps the structure of the classes in Iran is such that the students have less opportunity or the possibility of interaction with other students on course problems.

One of the limitations for the present research is to select the sample group among the girl students studying in Humanities and Arak Islamic Azad University. It is recommended that the causal relationships among the variables of motivation with regard to gender differences be compared in nest studies while selecting the sample group from both of genders and the other sections and fields of studying.

Conflict of Interest

The authors declare no conflict of interest.

REFERENCES

- Azevedo, R. (2009). Theoretical, conceptual, methodological, and instructional issues in research on metacognition and self-regulated learning: A discussion. *Metacognition Learning*, 4(1), 87–95.
- Bandura, A. (1986). *Social foundation of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bembenutty, H. (2011). Homework completion: The role of self-efficacy, delay of gratification, and self-regulatory processes.
- Feredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74, 59-109.
- Hejazi, E., Rastgar, A., & Qorban Jahromi, R. (2008). A prediction model of mathematical achievement: the role of achievement goals and academic engagement. *Journal of Educational Innovations*, 28, 30-41.
- Kadivar, P. (2001). *The share of beliefs of self-efficacy, self-determination and intelligence in the academic progress of students to model for optimal learning*. Tehran: Institute of Education.

- Kadivar, P., et al. (2009). Validation of questionnaire of academic emotions of Pekrun. *Journal of Educational Innovations*, 80(22), 7-30.
- Karabenick, S. A., & Knapp, J. R. (1991). Relationship of academic help seeking to the use of learning strategies and other instrumental achievement behavior in college students. *Journal of Educational Psychology*, 83, 221-30.
- Mirafshar, S., Khanabadi, M., Azadnia, A., & Soltani Gerdfarmarzi, S. (2012). The study of the effectiveness of self-regulated learning strategies on student achievement of fifth grade of girls in Yazd. *Research in the Curriculum*, 2(7), 105-117.
- Newman, R. S. (1990). Children's help seeking in the classroom: The role of motivational factors and attitudes. *Journal of Educational Psychology*, 82, 71-80.
- Nikdel, F., Kadivar, P., Farzad, V., Arabzadeh, M., & Kavousian, J. (2012). The relationship between academic self-concept, positive and negative academic emotions and self-regulated learning. *Journal of Applied Psychology*, 1 (21), 103-119.
- Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, 18(4), 315-341.
- Pekrun, R., Goetz, T., & Frenzel, A. C. (2005). *Academic Emotions Questionnaire-Mathematics (AEQ-M)—user's manual*. University of Munich: Department of Psychology.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: a program of qualitative and quantitative research. *Educational psychologist*, 37(2), 91-105.
- Pintrich, P. R. (1994). Continuities and discontinuities: future directions for research in educational psychology, *Educational Psychologist*, 29, 37-48.
- Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82, 33-40.
- Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in education: Theory, research and applications*. Englewood Cliffs, NJ: Prentice Hall Merrill.
- Regulatory Processes. *The International Journal of Educational and Psychological Assessment*, 6(1), 1-20.
- Schunk, D. H. (2008). Metacognition, self-regulation, and self-regulated learning: Research recommendations. *Educational Psychology Review*, 20(4), 463-467.
- Wolters, C., & Pintrich, P. R. (1998). Contextual differences in student motivation and self-regulated learning in mathematics, English, and social studies classroom. *Instructional Science*, 26, 27-47.
- Wolters, C., Yu, S., & Pintrich, P. R. (1996). The relation between goal orientation and students motivational beliefs and self-regulated learning. *Learning and Individual Differences*, 8, 211-38.