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Investigating the Relationship of Social Constructivist Learning Environment and Creative Educational Atmosphere with Academic Self-Efficacy of Higher Education Students

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Abstract: The aim of the present study is to investigate the relationship of social constructivist learning environment and creative educational atmosphere with academic self-efficacy of higher education students. The research method of the study is correlational. The population of the study includes all MA/MSc students of Lorestan University as 1643 individuals among which 310 participants were selected via Krejcie and Morgan's table using the stratified random sampling proportionate to the size sampling method. To collect data, the creative educational atmosphere inventory developed by Mohebbi, the social constructivism learning environment Inventory developed by Haghaighi and Kareshki and the self-efficacy beliefs Inventory of Zakova were used. To analyze data, Pearson correlation coefficient and regression analysis were used. The results obtained from the correlation coefficient indicated that there is a significant correlation of social constructivist learning environment it's subscales with academic self-efficacy. The results also showed that there is a significant correlation of creative educational atmosphere it's subscales with academic self-efficacy. The results of the present study confirm the role of social constructivist learning environment and creative educational atmosphere on academic self-efficacy of university students.

Key words: Social constructivist learning environment, creative educational atmosphere, academic self-efficacy, constructivist, regression

INTRODUCTION

Statements of the problem: Higher education in each country is one of the factors affecting the advancement of that country in cultural, social, political and educational grounds. Regarding the everyday expansion of scientific development and tendency of private and public organs for attracting experts, the individuals in each society have tended towards universities and academic centers (Olani, 2009). One of the most important issues in higher education is academic self-efficacy. In the cognitive-social theory, it is hypothesized that self-efficacy beliefs in determining activities followed by individuals is the degree of efforts which they adopt for pursing activities and distinct levels of individual's resistance against potential barriers is important (Gore, 2006). Reviewing literature attentively indicates that the concept of self-efficacy has been widely used in different research realms (Perry *et al*., 2007). According to Skaalvik and Skaalvik self-efficacy can set goals and achieve them affect (Hemmings and Kay, 2010).

Among the factors affecting on self-efficacy academic of student's environment in which learning takes place. According to a study by Fouts and Myers (1992), classroom environment, a place where teachers and students interact with each other and the diversity of tools and information resources used to pursue their learning goals. One of the approaches to study and change in the learning environment set to is constructivism. According study Kim (2005) theory of constructivism on learning suggests that learning is an active process that based on personal understanding of outside world is through personal experience. Also, learning in semantic structures creates change. In addition, learning environments of social constructivist, student-centric and the responsibility of students to determine learning objectives and performance tuning purposes (Marra, 2005) and relevance of the curriculum to life (Arkun and Askar, 2010) are emphasized. As regards the social constructivist environment try to one towards responsibility, prudence, social-purposefulness leads and teacher plays the role of guide and facilitator can be with the student's academic motivation have a good relationship and increase academic motivation, interest and self-efficacy of researching them.

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From among factors affecting other academic self-efficacy in the educational atmosphere in which learning occurs. Ekvall (1996) believes that an educational environment includes a set of attitudes, feelings and behaviors emphasizing innovation, satisfaction and efficacy of individuals. In his study, Ekvall considers ten factors of challenge, freedom, supporting of ideas, trust and confidence, discussion, conflict, risk taking, give chances to ideas, vibrancy and joy and humor to be effective on creating a creative environment (Ekvall, 1996). By challenge in Ekvall (1999)'s theory, it means a degree of emotional involvement of members of a class in realizing objectives. Therefore, in educational environments which are challengeable, students reach the meaningfulness of beliefs and are motivated by their teachers to do activities. By freedom, it means independence of members in their behaviors. Therefore, students are motivated to find information and solve their problems. By supporting ideas, it means new methods of behaviors with ideas. To realize this issue, professors should provide an environment in which multiple idea can be provided in order that individuals hear idea of each other. By trust and confidence, it means emotional trust between members in interactions with each other. In this environment, professors act in such a way that students without fear of being ridiculed by their classmates and professors can present their ideas. In environments in which professors provide spaces for discussions and motivate these spaces, a lot of ideas can be presented by students in classes whose outputs include creation of new ideas (Ekvall, 1999). In environments where contradiction is high, individuals cannot tolerate each other. Therefore, in the teaching method in which contradiction is low, professors provide a space in the class which make students to tolerate contradictory beliefs. Risk taking means the tolerance of uncertainty in classes. In the teaching method which is full of risk taking, professors and students present and perform new ideas. By giving chances to ideas, it means the time given to students by students to explain and describe their new ideas in the class where teaching methods are full of vivacity and dynamics. Usually, there are dynamics and vivacity among members of a class and new events occur in classes. In environments having vivacity and happiness, individuals feel convenience in classes (Ekvall, 1999).

By reviewing the literature, no research which has directly investigated the relationship of creative educational atmosphere and social constructivism learning environment questionnaire with higher education student's academic self-efficacy was found. However, some studies have been conducted in relation with mentioned variables. For example, Hungi and Changeiywo (2009) indicated that the strategy of creative teaching is significantly effective on the motivation of learners and creative planning skills. Aschen (2008) indicated about creative teaching of professors and behaviors of students that students consider the role of creative professors as effective on providing creativity in the educational system. Results of the study of Dau Gaspar emphasized the significance of creative approaches of teachers in shaping creativity among students which was accessing educational aims or creative personality. Knowles and Delaney (2005) investigated the relationship of self-efficacy and providing successful models and group activities of teachers and indicted that there is a significant relationship between providing successful models and group activities of teachers. Mahmoudi obtained the results that professor's behaviors and supports result in creating motivation for doing research and the frequency, quality and confirmation of student-professor interactions have significant effects on intellectual development of students.

The problem of this study was that, Lorestan University is emerging in terms of higher education and therefore, there is no accurate data about, environmental and educational processes affecting higher education students' problem solving skills. Therefore, according to findings, it can be hypothesized that creative educational atmosphere and social constructivism learning environment questionnaire are significantly and passivity effective on academic self-efficacy.

Research hypotheses:

- There is significant and positive correlation of perception of creative educational atmosphere and academic self-efficacy among higher education students
- There is significant and positive correlation of perception of social constructivism learning environment and academic self-efficacy among higher education students

MATERIALS AND METHODS

The research method is descriptive-correlational. The population of the present study include all MA/MSc students of Lorestan University in the academic year 2015-2016 as 1643 individuals. According to Krejcie and Morgan's table, from the population, 310 participants were selected using the stratified random sampling proportionate to the size method in terms of faculty and gender. To collect data the following instruments were used.

The creative educational atmosphere inventory: To assess the creative educational atmosphere, the inventory developed by Mohebbi was used. They used 10-component Ekvall's creative atmosphere. Since main items of the questionnaire developed by Ekvall is consistent with assessing creative atmosphere, the researcher tried to present some questions for assessing creativity in teaching with regard to main components of the research. Therefore, the researchers, after developing the primary questionnaire and doing some necessary modifications, to assess its content validity, it was submitted to eight experts of educational sciences and psychology of Ferdowsi University of Mashhad. Then, amendments were conducted according to their comments. By considering the ideas of the experts and changing some items, the final inventory was developed. To ensure the formal validity of the questionnaire, it was administered on a small group of students and they were asked to identify unclear questions. After determining ambiguous questions, to clarify them, some modifications were conducted on the questionnaire and the final version were submitted to participants. To evaluate the reliability the questionnaire, Cronbach's alpha was employed and its coefficient was as 0.85. The final version of the inventory included 10 components and 55 items. Challenge (8 questions), freedom (6 questions), supporting ideas (6 questions), trust and confidence (11 questions), discussion (6 questions), conflict (5 questions), risk taking (4 questions), giving chance to ideas (4 questions), vibrancy (3 questions) and joy and humor (2 questions) were its components and their questions. The scoring scale of the questionnaire was based on five-point Likert scale (strongly disagree, disagree, no idea, agree and strongly agree). Therefore, score 1 indicates the minimum tendency and score 5 indicates the maximum positive tendency. Accordingly, the total score of the questionnaire ranges between the minimum score 1 to the maximum score as 275. The mode of calculating the cross section was that because values of items were as strongly disagree =1, disagree = 2, no idea = 3, agree = 4 and strongly agree = 5, the sum of scores of options was 15 and by dividing it on the number of options (five options), 3 can be obtained.

The social constructivism learning environment inventory: To assess the social constructivism learning environment, the inventory developed by Haghaighi and Kareshki (2015) was used. The scoring scale of the questionnaire was based on 5 Likert scale (almost never, rarely, sometimes, often and almost always). Therefore, score 1 indicates the minimum tendency and score 5 indicates the maximum positive tendency. Accordingly, the total score of the questionnaire ranges between the minimum score 1 to the maximum score as 225. The mode of calculating the cross section was that because values of items were as The questionnaire scoring method is almost never, rarely, sometimes, often and almost always is, the sum of scores of options was 15 and by dividing it on the number of options (five options), 3 can be obtained. The final version of the inventory included 8 components and 45 items. Haghaighi and Kareshki (2015) to determine the validity from exploratory factor analysis was used. So that eight main factor that 59.45% of the total variance were extracted.The acquisition of the learning process to surround (questions), encouraging teamwork and exchange ideas between individuals (questions), the emphasis on prior learning (questions), authentic learning (questions), according to different views (questions), Problem-based (questions), self-assessment (questions) and the role of facilitator teachers (questions) were its components and their questions. Haghaighi and Kareshki (2015) in order to test reliability, Cronbach's alpha that the Cronbach's alpha for the whole questionnaire (0.94) and for each of the sub-components acquisition of the learning process to surround 0.88, encouraging teamwork and exchange ideas between individuals 0.87, the emphasis on prior learning 0.86, authentic learning 0.73, according to different views 0.74, problem-based 0.75, self-assessment 0.58 and the role of facilitator teachers 0.57.

Academic self-efficacy beliefs: The self-efficacy beliefs inventory by Zajacova *et al.* (2005) have developed a new version of the Academic Self-Efficacy Inventory by using the academic scale of Middleton, Lent, Brown and Larkin and the a college self-efficacy scale (Solberg *et al*., 1993). In this scale, the concept of academic self-efficacy beliefs are measured via 27 tasks related to the university. In this scale, participants are asked to identify their own degree of confidence in doing successfully each of the 27 academic tasks based on a 10-point Likert scale ranges from "strongly unconfident" as 1 to "strongly confident" as 10. In Zajacova *et al.* (2005), the results of confirmatory factor analysis indicated four factors of confident to one's own ability in doing tasks in class (items 8, 13, 10, 18, 11, 6, 9, 22 and 16), confident to one's own ability in doing tasks outside class (items 3, 5, 1, 15, 4, 25, 17 and 27), confidence to one's own ability in interacting with others in the university (items 20, 23, 2, 26, 7 and 21) and confidence to one's own ability in managing at work, family and university (items 9, 14, 24 and 12). In addition, they estimated reliability of subscales of this questionnaire as 0.72 and 0.90. This questionnaire was normalized by Shokri in Iran. They confirmed the four

mentioned factors using confirmatory factor analysis. In addition, using Cronbach's alpha coefficient, the reliability was reported as follows: confident to one's own ability in doing tasks in class as 0.88, confident to one's own ability in doing tasks outside class as 0.85, confidence to one's own ability in interacting with others in the university as 0.83 and confidence to one's own ability in managing at work, family and university as 0.72.

RESULTS AND DISCUSSION

Descriptive findings of the research includes statistical indicators such as mean and SD for variables of the study. The total numbers of the student participating in the study were 310 individuals. Their mean scores and SD in the creative educational atmosphere scale is equal as (169.39±33.32) in the subscale of challenge is (25.55±5.94), freedom as (19.20±4.75), supporting ideas as (18.51±4.62), trust and confidence as (34.82±7.72), discussion as (18.93±4.89), conflict as (14.73±3.43), risk taking as (11.26±2.90), giving chances to ideas as (11.96±3.58), vibrancy as (8.52±2.66) and joy and humor as (5.86±2.19). Their mean scores and SD in the social constructivist learning environment Scale is equal as (143.05±27.11), in the subscale of the acquisition of the learning process to surround is (31.02±6.30), encouraging teamwork and exchange ideas between individuals as (23.50±5.96), the emphasis on prior learning as (19.81±4.69), authentic learning as (37.21±5.06), according to different views as (12.77±2.96), problem-based as (16.39±5), self-assessment as (12.03 ± 3.47) and the role of facilitator teachers as (6.11±2.06) is. In addition, mean scores and SD in academic self-efficacy is equal as (174.43±34.40) is.

To investigate the relationship between creative educational atmosphere and academic self-efficacy, Pearson correlation coefficient was used and its results are represented in Table 1.

As the results of Table 1 indicate, the correlation coefficient between the total scale of creative educational atmosphere and subscales of challenge, freedom, supporting ideas, trust and confidence, discussion, conflict, risk taking, conflicts, giving chances to ideas, vibrancy and joy and humor are positively and significantly correlation with academic self-efficacy ($p<0.01$).

To investigate the relationship between social constructivist learning environment and academic self-efficacy, Pearson correlation coefficient was used. Table 2 indicates the results as follows. As the results of Table 2 indicate, correlation coefficient between the total scale of social constructivist learning environment and

Table 1: Correlation between creative educational atmosphere and academic self-efficacy

Variables	Academic self-efficacy
Creative educational atmosphere	0.557
Challenge	0.391
Freedom	0.455
Supporting ideas	0.499
Trust and confidence	0.546
Discussion	0.368
Conflict	0.314
Risk taking	0.288
Giving chances to ideas	0.451
vibrancy	0.444
Joy and humor	0.557

Table 2: Correlation between social constructivist learning environment and academic self-efficacy

Variables	Academic self-efficacy
social constructivist learning environment	0.641**
acquisition of the learning process to surround	0.370**
encouraging teamwork and exchange ideas between individuals	0.515**
the emphasis on prior learning	0.596**
authentic learning	0.579**
according to different views	0.520**
Problem-based	0.549**
self-assessment	0.341**
the role of facilitator teachers	0.375**

**Correlation at $p<0.01$

subcomponents of the acquisition of the learning process to surround, encouraging teamwork and exchange ideas between individuals, the emphasis on prior learning, authentic learning, according to different views, Problem-based, self-assessment and the role of facilitator teachers have positive and significant correlation with academic self-efficacy ($p<0.01$).

Self-efficacy refers to beliefs about one's capabilities to learn or perform behaviors at designated levels (Bandura, 1986, 1997). Much research shows that self-efficacy influences academic motivation, learning and achievement (Pajares, 1996; Schunk, 1995). Self-efficacy is grounded in a larger theoretical framework known as social cognitive theory, which postulates that human achievement depends on interactions between one's behaviors, personal factors (e.g., thoughts, beliefs) and environmental conditions (Bandura, 1986, 1997). Learners obtain information to appraise their self-efficacy from their actual performances, their vicarious experiences, the persuasions they receive from others and their physiological reactions. Self-efficacy beliefs influence task choice, effort, persistence, resilience and achievement (Bandura, 1997; Schunk, 1995). Compared with students who doubt their learning capabilities, those who feel efficacious for learning or performing a task participate more readily, work harder, persist longer when they encounter difficulties and achieve at a higher level. The aim of the present study is to investigate the relationship of social constructivist

learning environment and creative educational atmosphere with academic self-efficacy of higher education students.

The results of Pearson correlation coefficient indicated that there is a significant and positive correlation of perception of social constructivist learning environment and academic self-efficacy of higher education students. This finding with research results Aldridge *et al.* (2000) is consistent because they in own research, concluded that Constructivist learning environment with metacognition, self-efficacy and learning approaches are related. According to Biggs *et al.* (2001) learning environment that based on the principles of constructivism established, the perfect learning environment for classes is and for students feeling efficacy and to learn high level cognitive strategies to adopted, it is necessary that learning environment be constructivist.

CONCLUSION

The results of Pearson correlation coefficient indicated that there is a significant and positive correlation of perception of creative educational atmosphere and academic self-efficacy of higher education students. These findings are consistent with those of Hungi and Changeiywo (2009) and Aschen (2008). To explain these findings, we can say that self-efficacy is rooted in motivational and cognitive issues. Because the educational atmosphere creative greatest impact in the cognitive level of self-efficacy, natural that the creative educational environment is positive and significant effect on student's self-efficacy. One of the main elements in university is the issue of training and teaching-learning process. Regarding the advancement in technologies and the advent of post-industrialism, it is necessary that the teaching-learning process in universities and schools be coordinated with these upheavals and traditional strategies of transferring information should move towards new educational strategies of problem-orientedness and problem-solving which can result in developing creative abilities in students. This issue is very important for MA/MSc students because these individuals enjoy high abilities and they can be trained with effective methods in order that their visions be expanded and consequently, their power of analyzing issues, criticizing scientifically and solving problems can be improved. Usually, teaching and learning methods can be divided into two groups of active and passive methods. Naturally, creativity-based educational strategies are related to the first group. Active methods are interactive in which learners play an active role in the process of learning and teacher have the role of a guider (Torrance, 1990). It should be noted that although professor's curricula are pre-designed and prepared for them, there is this possibility that regarding student's capabilities and professor's identification, some changes can occur in them. In addition, professors can use active teaching methods for enriching students' conditions and abilities because as mentioned, active teaching methods provide necessary opportunities for developing creative thought skills and academic self-efficacy as many as possible.

LIMITATIONS

Among limitations of the study, one can refer to the quantitative research method because qualitative research conducted via structure, semi-structure and non-structured interviews, the researcher can find deeper finings. If changes in research objectives provide this possibility that qualitative methods conducted via interviews can be used, more complete results can be obtained. In addition, the relatively low number of the population was among research limitations. Due to high costs and time-consuming nature of the research as well as the proportionate of the population to the sample size, the study was limited to MA/MSc students. The relationship of social constructivist learning environment and creative educational atmosphere with academic self-efficacy in Iran has received little attention. Therefore, the results of the present study can be compared with the results obtained in other countries and relatively similar studies in Iran. This issue can create some problems in discussion and conclusion section of the study particularly in case of presenting consistent and inconsistent researchers because there was no researches totally related to the subject of the research in Iran and abroad. In addition, collecting data was self-report. Therefore, interpretation of the results of the study should be conservatively represented.

SUGGESTIONS

Regarding the results obtained, it is suggested that professors should have some changes in their teaching methods and by giving enough chances and time to students for expressing their ideas and innovations, help the in the process of scientific development in order that they can increase in them the power of analyzing issues, criticizing scientifically, solving problems and innovation and creation. The culture dominating the educational system should be in such a way that risk taking be encouraged in students in order that they do not avoid expressing their ideas and innovations because of the fear of being ridiculed by their classmates and professors. It is

suggested that professors create appropriate strategies and give independence to student in order to make them take risks and welcome activities require risk taking. Furthermore, creating vivacity and dynamics via different recreational programs can revive creativity in students. Holding workshops and educational courses as well as making professors familiar with creative teaching methods are highly recommended. Moreover, regarding the influence of social constructivist learning environment, it is recommended that students should be aware their social constructivist learning environment on academic self-efficacy; therefore, to enhance this awareness, planning and performing training is necessary for the increase in self-efficacy. Furthermore, training and conducting researches and cases studies can be suitable in accessing desired aims.

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