

“Individual and environmental factors influencing the creativity of the students of Islamic Azad University (region 8)”

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ABSTRACT

The study has been accomplished with the purpose of “Individual and environmental factors influencing the creativity of the students of Islamic Azad University (region 8)” through the questionnaire of the influencing factors on the creativity. The method is descriptive- measurement in the statistical society which included 19238 B.A students, but the desired sample only included the students of the third and fourth year in the different educational groups. 285 persons were determined as the sample volume by the Cochran formula. Due to the importance of the mission of higher education and the increasing changes in the global level and the importance of productivity of individuals in the university space, the researcher considered it necessary to do such a research, and 15 units were selected from the whole units of the university and the students were asked to fill the questionnaire which had been classified through Likert scale from 1 to 5 in two parts of **individual factors** (assiduity and perseverance, critical thinking independence, self-confidence, ambiguity tolerance, self-efficiency, creative self-efficiency, study style) and **environmental factors** (social support, class atmosphere and emotional-mental atmosphere of the class, university culture, perception of the learning- training environment) influencing the creativity. The reliability of the questionnaire was obtained through applying the primary plan and calculating the coefficient of Cronbach’s alpha (0.870). The results indicated that all of the environmental factors and individual factors had a positive and meaningful relationship with the creativity. All of the hypotheses of the research were confirmed except the (2-8) hypothesis because there was no meaningful relationship between “the study style and the creativity of the students of Islamic Azad University (region 8)” and this hypothesis was rejected. According to the findings, the coefficients of the direct effects of the individual factors in the prediction of the creativity have had a very significant role (effect coefficient = 0.83). The environmental factors could not directly play a role in creativity (effect coefficient = 0.08) and when the environmental and individual factors enter the regression equation as the predictor of the creativity, the role of the environmental factors is faded. Regarding the positive relationship (common variance) between the environmental and individual factors, it is appeared that the individual factors play a mediate role. As the researcher had predicted, the role of the environmental factors develops and grows the creativity through improving the individual factors (indirect effect coefficient = 0.34) and in this study, 64 percent of the creativity growth has been determined by the individual and environmental factors.

KEY WORDS: Individual and environmental factors, creativity, students, Islamic Azad University

INTRODUCTION

However the interest in creativity refers to the era of Plato (Cropley, 2004, p 13), and it has been found in Greece and also in the Islamic, Christian and Jewish works (Craft, 2001, p 5); and it was again paid attention to in the Soviet Union with the launch of the satellite “Sputnik” in the space in 1957.

After the failure of the engineers of Europe and America and other west countries and also with the demos copy from the society which was the indicator of the absence of the creativity in the education in those countries (Esquivel, 1995, p 215) from that time till now, several waves of creativity in education have been seen (Wilson, 2005, p 1-88). Perhaps this is the most important current field of discussion for the politicians of economy. Also, the role of creativity in the economy has been considered as a critical role (Barnard, 2006, p 315) which has helped the societies to access higher economic development and engagement (Davis, 2002, p 1-16) and also it is dealing with the increasing competitions.

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For the same reason, the creativity cannot be ignored and also, it cannot be repressed by education (Paul, 1980) or it cannot be left with the excuse of luck and fortuity (Nestea, 2009). It can be explicitly said that it has the capacity to be examined as a “basic skill of life” in the education. That is what we need to develop the future generations such that they can grow very well and be successful in the twentyfirst century (Parcrast, 2006, 1999, p 2). Self-actualization, learning and creativity are a synergistic cycle (Burleson, 2005, p 437). Creativity includes human’s talent and ability to produce innovative, creative and profitable works (Sternberg & Lobart, 1999, p 85).

As we observe, the today world is continually changing and revolving and the rate of changing of our era is more than every other time in the history of human’s life. Among this situation, the organizations must accompany these changes as the factor of the perpetuity of human societies, not only for achieving elite, but also for continuing the life, because it is clear that in this fast changing cycle, if the organizations and societies have not the ability to change appropriately, they will become weak or will be eliminated compared to the other similar sets (Sange 11, 2006, p 15).

In fact, the base of the developed societies is creativity in the case that not only they identify their problems by the creativity, but also they search the only way to solve these problems in creativity (Bohem, quoting from Ramezani, 2009, p 20). However, the organizations and societies need various tools to apply these changes which their most important is producing knowledge and training the productive citizens who are equipped to this knowledge. Higher education missions and the expectations of the society indicate that the knowledge producing is considered as the most significant duties of the higher education. Therefore, in the path which the human societies need the modern knowledge to survive and adjusting to the continuous environmental changes, the university finds a new meaning and plays a significant role which is the same knowledge producing and training the students and citizens that are considered as the most important users of this science.

Also, the creativity can provide the field of growth and accession of talents and self-actualization of the people. The university is from the most important places that can breed creative people and the professors are from the persons who can cause the accession of the creativity of the students or through applying inappropriate methods they can cause miscarry of the creativity (Kazemi, 2011, quoting from Bidokhti, p 3).

Livingston Larry (2010, p 59) believes that if the university is intended to focus its mission on breeding the creativity, the best action which it can take is to provide the maximum of opportunities for the students through education and training for them to be active and creative. At the beginning of the third millennium, our attempts are for helping the development of the students in the way that how to think. They must be able to use the determined critical thinking skills which can be trained and learned, and when the students learn the skills appropriately, so they will be better thinkers (Halpern, 200, p 69-73).

Creativity means to produce noble, innovative and valuable achievements. Nobility and innovation can be posed with the previous experience of the individual or a group, or can be only meant against the previous knowledge and thoughts existing in the world (Fisher & Williams, 2009, p 10). Creativity is tendency to know, look deeper and exit from the behind of the closed doors and get friend with the future (Pazargadi, 2010, p 10). Churls Handy says that: “the winners of tomorrow are the people who change the world with creativity and innovation, not the people who react to the events” (Gibson, 2007, p 26). Regarded to the fact that the major function of the university is to develop the borders of knowledge and produce science and also the creativity forms the source and base of the science, the creativity has more necessity for this institutes compared to the other organizations (Bohen Day, 1998, p 25). Stojanova Biljana (2010, p 1) in a study stated that in several decades in all over the world especially in the developed countries, a special attention has been paid to studies of the creative phenomena. That is to say the interests which explicitly include the great and creative minds influencing all fields of the life and also investments for developing the creativity which are very important.

Also in the education, the main goal must be to create the humans who have the ability to do new works and have new thoughts, not just repeat the actions of the last generation, but they should be equipped for living in a challenging and changing world. If new solutions are to be found for solving the issues and problems, the creativity is necessary, and if the societies are to take steps toward the development, one of the significant pillars in any society is universities and higher education institutes which have an important role in development of the countries such as developed countries. Therefore, in order to develop the society we should move toward the universities, and also the planners and managers of the universities must pay attention to its environment and items and provide the headstock for creativity of the students.

As the university has a respect and value I the society, mutually we have some expectations from it that are it should think about the society and the changing needs and the market continuously and also balance itself with the local issues and the environment, make its trainings efficient and consider the society’s issues in them, educate its students planner, creative and entrepreneur persons having the practical skills for entrance to the work and life fields and creating the training (FarasatKhah, 2010, page 192).

Due to the Global Higher Education Bulletin of UNESCO for the 21 century and the codified programs and goals of the higher education and the performances of the university and also, the country's requirement to entrepreneur persons with creative minds, critic thoughts, and related to the existing situation in the society and the existence of research gape in this headstock, these all are the indicator of the importance of paying attention to the research in this field and they persuade the researcher to pay attention to the student's creativity which is one of the important items in the higher education of our country. Due to the fact that the critic and creative thought play a significant role in the dynamicity of the person and the development of the society, some steps can be taken for the productivity and efficiency of the university through recognizing the influencing items on the creativity of the student and its effect on the environment of the university and its performance.

Research Background:

"Creativity in the students of the college" is the title of a research which was published by Mugasivarathnam Reddy and Digumarti Bhaskara Rao in 2010 in New Delhi. In this study, the tools of Creativity Questionnaire of Torrens, Getzel&Gakson and Vallach & Goganwere used on the students of the third year of the university. The aim of the study is to examine the creativity of the girls compared to the boys, creativity between the urban and rural students, and the difference in the science fields with the art fields. The obtained results from this study indicated that the girls are better than the boys in the creativity and also the sciences students are more creative than the students of the art field, and the rural students have lesser creativity compared to their counterparts, and also, the more creative students have families with better economic- social conditions. Taylor published a research entitled "Creative thinking and views in Romania" in (2008). The desired questions in this study were such that whether creative thinking will lead to the development of the students of Romania in the college. Do the individual tendencies develop through the university? Is there any correlation between the individual tendencies and high levels of creative thought of the students?

The obtained results after accomplishing Torrens's creative test on a sample of the students and studying the factors of age, training, school emphasis, nationality and individual characteristics were such that there were a high correlation between the individual characteristics and high levels of thinking, and also there were a meaningful relationship between the colleges and high schools; and the students of the university and the students of the last year of high school.

RazieSheykh Al-Eslami (2005) prepared her PhD. Thesis under the title of "predicting the creativity of the students of Shiraz University due to the variables of external motivation, internal motivation and gender".

The studied samples included 280 students (139 girls and 141 boys) which were collected using the sampling method of Abedi and the questionnaire of occupational preference specialized for the students, and after that they were analyzed through the multi-variables statistical regression method. The obtained results indicated that the external motivation and the gender have no meaningful relationship with the creativity of the students, but the internal motivation has a positive and meaningful relationship with the amount of creativity of the students. Sobhie et al. (2008) published their research work under the title of "building creativity in the students of Architectural engineering (examining three models to transfer the knowledge from the viewpoint of the students)". The statistical society was the entire B.A. Students of Architectural field and the desired sample has been selected 49 persons due to the field in four universities (Tehran, Shahid Beheshti, Elm & Sanat, Tarbiat Modarres) through simple random sampling. With checking the results they found out that the informational literacy of the students about creativity and the capacity of development are not enough. Also, the faculties and educational groups play a key role in transferring the fact of trainability and being developable of the creativity to the students, and from the viewpoint of the students, as the interactions between the students in the training process of architectural plan is more (effective transfer of knowledge and experience) is more, the rate of creativity increase will become more in the students.

With examining the related studies it can be observed that a group have studied the creativity from the viewpoint of the students and another group have look this vision from the perspective of creativity and faculty, some have emphasized the creativity training and some other have paid attention to the styles of thinking and creativity and another group have focused on the relationship between creativity and intellect in the students in different fields that all of them have been in the section of "creativity" parallel with the task of the researcher, but none of them have studied the students of Islamic Azad University. Therefore, doing more studies in this part is important.

The general goal: the individual and environmental factors influencing the creativity of the students of Islamic Azad University (region 8).

According to the mentioned general goal, the current study is to find the answers of the following questions:

1. How much is the share of the individual factors in the creativity of the students of Islamic Azad University?

2. How much is the share of the environmental factors in the creativity of the students of Islamic Azad University?

HYPOTHESES:

1. There is a meaningful relationship between the individual factors and the creativity of the students of Islamic Azad University (region 8).

2-1. There is a meaningful relationship between the perseverance, assiduity and the creativity of the students of Islamic Azad University (region 8).

2-2. There is a meaningful relationship between the self-confidence and the creativity of the students of Islamic Azad University (region 8).

2-3. There is a meaningful relationship between the self-efficiency and the creativity of the students of Islamic Azad University (region 8).

2-4. There is a meaningful relationship between the critical thinking and the creativity of the students of Islamic Azad University (region 8).

2-5. There is a meaningful relationship between the independence and the creativity of the students of Islamic Azad University (region 8).

2-6. There is a meaningful relationship between the ambiguity tolerance and the creativity of the students of Islamic Azad University (region 8).

2-7. There is a meaningful relationship between the emotional- mental atmosphere of the class and the creativity of the students of Islamic Azad University (region 8).

2-8. There is a meaningful relationship between the creative self-efficiency and the creativity of the students of Islamic Azad University (region 8).

2. There is a meaningful relationship between the environmental factors and the creativity of the students of Islamic Azad University (region 8).

2-1. There is a meaningful relationship between the social support and the creativity of the students of Islamic Azad University (region 8).

2-2. There is a meaningful relationship between the study style and the creativity of the students of Islamic Azad University (region 8).

2-3. There is a meaningful relationship between the culture of the university and the creativity of the students of Islamic Azad University (region 8).

2-4. There is a meaningful relationship between the perception of the learning environment and the creativity of the students of Islamic Azad University (region 8).

METHODOLOGY

The current study is from the descriptive- measuring kind and it has studied the individual and environmental factors influencing the creativity of the students of Islamic Azad University (region 8). So, in order to determine the individual and environmental factors influencing the creativity of the students of Islamic Azad University (region 8), the statistical society included 192381 persons who were all of the students (girls and boys) and the sample volume was considered ($n = 285$) based on Cochran formula and it included the students of (the third and fourth year) of undergraduate level who were studying in the school year of 2011 – 2012. The sample volumes have been determined 152 persons for the girls and 132 persons for the boys based on the unequal subgroups of the statistical society. The sampling method is classical random and with the proportion of the girls and boys in the studied society and all of the branches of Islamic Azad University (region 8) of Tehran province has been divided into five geographical regions with the multi stages clustered sampling method including: north, south, east, west and center of Tehran province which different universities have been in these regions; and the samples were randomly selected from the different educational groups through referring to the universities.

Tools: the questionnaire of the influencing factors and the process of its preparations are as following, the measuring indices of this questionnaire have separately been designed from the standard questionnaires by the

researcher and the respected faculties before; and also, they have been extracted from the research literature and they have become ultimate after many analysis and balances. In this stage, the indices were separated and combined. Based on this fact, the oretical bases of the research were reviewed and revised. The questionnaire has been set according to the Likert five options scale (strongly disagree = 1, disagree = 2, average = 3, agree = 4, strongly agree = 5). In order to confirm the face validity, the test run was used and in order to confirm the content validity the judgment of the experts and total review of the literature were used. The reliability of the questionnaires was confirmed through calculating the coefficient of Cronbach's Alpha. The obtained indices and a summary of the research and the used resources were given the experts in order to evaluate the reliability, and the reliability of the indices was examined from the perceptions of the experts. In order to estimate the coefficients of direct, indirect and the total effect, the Lisrel structural equations¹technique with the maximum possibility method were used; and Amos 18 software was used to estimate the effect coefficients; in the way that the validity of the explicit variables in measuring the related implicit variables was tested using Lisrel software in that context each of the explicit variables was meaningfully effective on some very suitable coefficients in measuring the related implicit variable. The questionnaire contains 117 questions and the calculated coefficient of Cronbach's Alpha is (0.850).

Data Analysis:

1– How much is the contribution of the individual factors on the creativity of the students of Islamic Azad University?

The indices of the central tendency and the indices of changes related to the measuring variables have been presented in the table 1.

Table 1: descriptive indices of the research's variables

Elongation	Slope	Maximum	Minimum	Standard Deviation	Mean	Variables
0.10	-0.14	147	73	13.69	111.30	Creativity
0.43	0.02	30	10	3.22	20.75	Assiduity and Perseverance
-0.04	-0.25	25	9	3.16	18.81	Critical Thinking
0.27	-0.039	25	5	3.25	17.90	Independence
0.43	-0.27	20	4	2.93	14.51	Self-confidence
0.07	0.26	40	12	5.09	27.53	Ambiguity Tolerance
0.54	0.79	67	28	5.36	44.77	Self-efficiency
-0.09	0.03	30	8	4.19	20.42	Creative Self-efficiency
-0.03	0.11	20	4	3.01	11.70	Study Style, Method

Number of Samples = 284

In the above table, the mean, standard deviation, minimum score and maximum score of each variable have been reported. The indices of slope and elongation in the above table indicate that the distribution of none of the variables is in out of the normal mode.

The creativity had a meaningful and positive relationship with all of the individual factors including assiduity and perseverance ($r = 0.42$, $P < 0.01$), critical thinking ($r = 0.56$, $P < 0.01$), independence ($r = 0.58$, $P < 0.01$), self-confidence ($r = 0.59$, $P < 0.01$), ambiguity tolerance ($r = 0.55$, $P < 0.01$), self-efficiency ($r = 0.33$, $P < 0.01$), and creative self-efficiency ($r = 0.51$, $P < 0.01$). In other words, a high score in each of the individual factors is along with a higher score of creativity. According to the coefficients of the direct effect, the individual factors had a very significant role in predicting the creativity (the effect's coefficient = 0.83, $P < 0.01$).

The mutual correlation between the variables of the research was calculated by the Pearson torque method and the results are shown in the form of correlation matrix in the table 2.

Table 2: correlation matrix of the variables of research

12	11	10	9	8	7	6	5	4	3	2	1	variables
												1. creativity
											**0.22	2. social support
										0.26**	**0.26	3. class atmosphere
									0.68**	0.15**	**0.20	4. university culture
								0.64**	0.71**	0.18**	0.13*	5. perception of the learning environment

¹Lisrelor (Structural equation modeling: SEM) is a very general and powerful multi-stages analysis technic from the family of the multi variables regression.

							0.14*	0.17**	0.21**	0.23**	0.42**	6. assiduity and perseverance
						0.37**	0.01	0.02	0.11	0.27**	0.56**	7. critical thinking
					0.36**	0.39**	0.18**	0.024**	0.23**	0.23**	0.58**	8. independence
				0.60**	0.28**	0.43**	0.22**	0.26**	0.31**	0.22**	0.59**	9. self-confidence
		0.45**	0.48**	0.41**	0.48**	0.21**	0.30**	0.25**	0.14*	0.55**		10. ambiguity tolerance
	0.44**	0.30**	0.26**	0.25**	0.31**	0.28**	0.19**	0.22**	0.11	0.33**		11. self- efficiency
	0.49**	0.56**	0.41**	0.42**	0.38**	0.40**	0.17**	0.28**	0.23**	0.16**	0.51**	12. creative self-efficiency
-0.06	0.18**	0.12*	-0.01	0.01	-0.23**	0.06	0.13*	0.17**	-0.01	-0.17**	-0.04	13. study style, method

0.01P<0.05 , ** :p ≤ *

2 – How much is the contribution of the environmental factors on the creativity of the students of Islamic Azad University?

In order to examine the relationship between the environmental factors and the creativity the correlation analysis of Pearson methods has been used, too (table 3). The environmental factors including the social support ($r = 0.22$, $P < 0.01$), class atmosphere ($r = 0.26$, $P < 0.01$), university culture ($r = 0.20$, $P < 0.01$), and the perception of the learning environment ($r = 0.13$, $P < 0.05$) had a positive and meaningful relationship with the creativity.

Table 3: descriptive indices of the research's variables

Elongation	Slope	Maximum	Minimum	Standard Deviation	Mean	Variables
0.10	-0.14	147	73	13.69	111.30	Creativity
-0.03	-0.44	60	16	8.35	44.21	Social Support
0.42	-0.31	103	23	12.87	65.70	Class Atmosphere and the Emotional-Mental Atmosphere of the Class
0.10	0.10	35	9	4.81	19.89	University Culture
0.70	-0.38	88	19	11.43	55.82	Perception of the Learning – Training Environment

The Results of Measuring Model:

The assiduity and perseverance index meaningfully measures the concept of the individual factors with the coefficient of 0.59.

The critical thinking index meaningfully measures the concept of the individual factors with the coefficient of 0.58.

The independence index meaningfully measures the concept of the individual factors with the coefficient of 0.66.

The self-confidence index meaningfully measures the concept of the individual factors with the coefficient of 0.70.

The ambiguity tolerance index meaningfully measures the concept of the individual factors with the coefficient of 0.75.

The self-efficiency index meaningfully measures the concept of the individual factors with the coefficient of 0.50.

The creative self-efficiency index meaningfully measures the concept of the individual factors with the coefficient of 0.67.

The study style, method index meaningfully measures the concept of the individual factors with the coefficient of 0.43.

The social support index meaningfully measures the concept of the environmental factors with the coefficient of 0.26.

The emotional and mental class atmosphere index meaningfully measures the concept of the environmental factors with the coefficient of 0.51.

The culture index meaningfully measures the concept of the environmental factors with the coefficient of 0.78.

The perception of the learning environment index meaningfully measures the concept of the environmental factors with the coefficient of 0.38.

The environmental factors could not directly play a role in the creativity (effect's coefficient = 0.08, $P > 0.05$).

During the correlation analyses it has been cleared that the environmental factors has a positive and meaningful relationship with the creativity; however when the environmental factors and the individual factors enter the regression equation as the creativity predictors, the role of the environmental factors is faded.

Hypotheses:

1. There is a meaningful relationship between the individual factors and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the individual factors ($r = 0.68$, $P < 0.01$).

2-1. There is a meaningful relationship between the assiduity and perseverance and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the assiduity and perseverance ($r = 0.42$, $P < 0.01$).

2-2. There is a meaningful relationship between the self-confidence and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the self-confidence ($r = 0.59$, $P < 0.01$).

2-3. There is a meaningful relationship between the self-efficiency and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the self-efficiency ($r = 0.33$, $P < 0.01$).

2-4. There is a meaningful relationship between the critical thinking and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the critical thinking ($r = 0.56$, $P < 0.01$).

2-5. There is a meaningful relationship between the independence and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the independence ($r = 0.58$, $P < 0.01$).

2-6. There is a meaningful relationship between the ambiguity tolerance and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the ambiguity tolerance ($r = 0.55$, $P < 0.01$).

2-7. There is a meaningful relationship between the creative self-efficiency and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the creative self-efficiency ($r = 0.51$, $P < 0.01$).

2-8. There is not any meaningful relationship between the study style and the creativity of the students of Islamic Azad University (region 8).

3. There is a meaningful relationship between the environmental factors and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the environmental factors ($r = 0.62$, $P < 0.01$).

3-1. There is a meaningful relationship between the social support and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the social support ($r = 0.22$, $P < 0.01$).

3-2. There is a meaningful relationship between the emotional-mental atmosphere of class and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the emotional-mental atmosphere of the class ($r = 0.26$, $P < 0.01$).

3-3. There is a meaningful relationship between the university culture and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the university culture ($r = 0.20$, $P < 0.01$).

3-4. There is a meaningful relationship between the perception of the learning environment and the creativity of the students of Islamic Azad University (region 8).

The creativity has a positive and meaningful relationship with the perception of the learning environment ($r = 0.13$, $P < 0.01$).

4. The creativity of the students of Islamic Azad University (region 8) can be adjusted through the individual and environmental factors.

The creativity has a positive and meaningful relationship with the individual and environmental factors. Also, each of the items has a positive and meaningful relationship with the creativity.

DISCUSSION AND INTERPRETATION

The researcher in his research has divided the influencing factors on the creativity into two groups due to the theories and theoretical basics and he has achieved some results which will be analyzed in the following: 1- environmental factors which include the social support, the atmosphere of the class and the emotional and mental atmosphere of the class, culture of the university, perception of the learning and training environment.

Some scholars such as Amabil (1967), Sikzentmi Holley (1990) and Lotanz (1995) considered the environment factor significant in the creativity and they have spoken about it very much. The existence of the individuals with different characteristics, special facilities of that environment, organization or university can provide the creativity accession or repress it.

First indicator: it is the mental and emotional atmosphere of the class (class atmosphere). The class atmosphere and mental and the emotional atmosphere ($r=0.26$, $P<0.01$) had a positive and meaningful relationship with the creativity and their mean is 65.70 and this indicator meaningfully measures the concept of the environmental factors with the effect coefficient of 0.51.

The class atmosphere has a special importance and during the study period, the students are learning continuous hours in it and the different courses are completed with the various faculties and then, after attempting for several years they receive their testimony. It is where can be the place of the questions and discussions between the related professor and the students and the possibility of development and growth to reach the creativity can be provided by that; such that Fisher and Williams (2009) believe that the questioner environment and class is a place that the professor and the student (teacher and pupil) pose unusual and challenging questions and also, the strong role of teachers in the class atmosphere is important such that Bloom (1985) says that the teachers play a significant role in development of creative and capable learners.

The second indicator: the perception of the learning environment is a subset of the environmental factors ($r=0.13$, $P<0.05$). It has a positive and meaningful relationship with the creativity and its mean is 55.82 with the effect coefficient of 0.38 which meaningfully measures the concept of the environmental factors.

Perception of the learning – training environment can be analyzed in the way that the student must be able to use the class in a manner that observe the curiosity and incitement of thoughts and be encouraged to participate in class discussion. Also, the students must be able to observe that the faculties are receptive of their new ideas and comments and there is a good relationship and interaction between the student and the professor when training. In this study, there is a positive and meaningful relationship between the creativity and the perception of learning – training environment and, it measures the environmental factor as one of the items with the effect coefficient of 0.38.

The third indicator: the social support is a subset of the environmental factors ($r=0.22$, $P<0.01$). It has a positive and meaningful relationship with the creativity and its mean is 44.21 with the effect coefficient of 0.26 which meaningfully measures the concept of the environmental factors.

The social support for the student means that his friends, family and classmates support him and try to help him be able to solve his problems and they care about his emotions. In this study, there is a positive and meaningful relationship between the creativity and the social support for the student; so, when the student is paid attention to in the university environment and the assistants of the university and the respectful faculties do not indifferently pass the problems and issues of the students, the logical support for the students can be reached and this affair in its turn influences the other parts of the university.

The forth indicator: the culture is a subset of the environmental factors ($r=0.20$, $P<0.01$), it has a positive and meaningful relationship with the creativity and its mean is 19.89 with the effect coefficient and it meaningfully measures the concept of the environmental factors.

Also, the university culture influences the class atmosphere with the effect coefficient of 0.38 and it also influences the perception of the learning – training environment with the effect coefficient of 0.29. Therefore, in addition to the class atmosphere, the university culture is also effective on the perception of the student of the learning – training environment. For the student the university culture includes the dominant culture in the university, the dominant culture in the class atmosphere, management and leadership of the university; it is a significant matter for the student and it is to build a warm and human space along with trust and support, or in the contrary, it is to build a cold, closed, duty-based, arbitrary and difficult and inflexible atmosphere; each of these two can have its special effect. When the students get present in the university enthusiastically and even they are allowed to act in their interested subject, this case is the sign of an open environment and a desired dominant culture which will influence the students' creativity. In this research there is a positive and meaningful relationship between the university culture and the creativity for the students, and the influence of the culture can be considered very significant that its shadow spreads on the class atmosphere and the perception of the learning environment. It is considerable that all of the hypotheses related to each of the environmental factors have been confirmed.

2. Individual factors which are the second part of the influencing factors on the creativity include: assiduity and perseverance, critical thinking, self-confidence, ambiguity tolerance, self-efficiency, creative self-efficiency, study style, method

This research is confirmed by the researches of the scholars such as Stojohnova (2010), Land & Jarman (1980), Amabil (1998) and Weisberg (1992) who considered the individual factor and the characteristic features important in the creativity.

The first indicator: the assiduity and perseverance are the subset of the individual factors ($r=0.42$, $P<0.01$), they have a positive and meaningful relationship with the creativity and their mean is 20.75 and they meaningfully measure the concept of the individual factors with the effect coefficient of 0.59.

Assiduity and perseverance cause that the student has the ability to overcome the difficult problems, gain knowledge through study and research, and use this knowledge through much thinking and experience and long-term experiment.

Harris (1999) believes that Edison's continuous failures in building lamp, numerous failures in designing the airplane etc. indicate that all of these great persons have consider the failures as a resource of experience and overcome them through assiduity and perseverance.

The second indicator: self-confidence is a subset of the individual factors ($r = 0.59$, $P < 0.01$) and it has a positive and meaningful relationship with the creativity and its mean is 14.51 which meaningfully measures the concept of the individual factors with the effect coefficient of 0.70.

This study has been confirmed by the researches of the great scholars like (Albrecht, 1962; McKinnon, 1970, 1962) who believe that the creative persons usually have self-confidence and they deeply believe their abilities and skills and what they do. High confident students can independently think and act and insist on their belief in spite of lack of acceptance and censure of the others. In this study there is a positive and meaningful relationship between the creativity and self-confidence for the student. This point is considerable that the self-confidence of the students influence the ambiguity tolerance with the effect coefficient of 0.17 and this indicates that the high confident student can better use his mental force and analyze the issues in the ambiguous situations.

The third indicator: the ambiguity tolerance is a subset of the individual factors ($r = 0.55$, $P < 0.01$) which has a positive and meaningful relationship with the creativity and its mean is 27.53 with the effect coefficient of 0.75 that measures the concept of the individual factors meaningfully. The ambiguity tolerance for the students means that they have a high capacity to become compatible when facing unknown or undefined situations, because the creative actions basically take place in a response to the ambiguity and they are defined from the inside of the ambiguity. Therefore, the ambiguity must be always treated as an opportunity. The students must have the capacity of tolerating the pressures in order to achieve the new and original ideas and solutions.

Sternberg (1991) believes that the best creative ideas and solutions are those which are obtained by the persons who have the capacity and tolerance of these ambiguities. However it is difficult to wait in the ambiguous situation, but its results are often justifying. In this study, there is a positive and meaningful relationship between the creativity and the ambiguity tolerance for the student.

The forth indicator: self-efficiency is a subset of the individual factors ($r = 0.33$, $P < 0.01$) which has a positive and meaningful relationship with the creativity and its mean is 44.77; and it meaningfully measures the concept of the individual factors with the effect coefficient of 0.50. From the perspective of Bandura (1989), self-efficiency means that we believe that we can approach with the different situations. Self-efficiency for the student means that how to organize the required ways to reach the expected situations and implement them. In this study, there is a positive and meaningful relationship between the creativity and self-efficiency for the student. It is considerable that the self-efficiency influences the creative self-efficiency with the effect coefficient of 0.25 and this indicate that the self-efficiency of the student will be influencing on the creative self-efficiency of the students. Therefore, in the university environment the planners must pay attention to this point that the creative self-efficiency influences the general self-efficiency of the students and they must take actions in order to make the environment productive as more as possible.

The fifth indicator: the creative self-efficiency is a subset of the individual factors ($r = 0.51$, $P < 0.01$) which has a positive and meaningful relationship with the creativity and its mean is 20.42; and it meaningfully measures the concept of the individual concept with the effect coefficient of 0.67. As several scholars came to the result that the creative people have a strong imagination of their creativity; because the positive thinking power of the people is hidden in the case whether they have such a capability and they can accept the creativity (or not). Therefore, the students have rather closed to this belief and accepted this fact that they can be creative individuals and also increase their creativity. This possibility and opportunity of the university can be well used; because the mind only can find out what which it has been prepared for it. Therefore, if you consider yourself creative, the creativity can take place.

The sixth indicator: the critical thinking is a subset of the individual factors ($r = 0.56$, $P < 0.01$) which has a positive and meaningful relationship with the creativity and its mean is 18.81; and it meaningfully measures the concept of the individual concept with the effect coefficient of 0.58.

Halpern believes that at the beginning of the third millennium, our attempts are to help the students how to think. There are determined skills of the critical thinking that can be trained and learned and when the students learn the skills and use them appropriately, they will be better thinkers.

The seventh indicator: the independence is a subset of the individual factors ($r = 0.58$, $P < 0.01$) which has a positive and meaningful relationship with the creativity and its mean is 17.90; and it meaningfully measures the concept of the individual factors with the effect coefficient of 0.66. Baron and Harington (1989) indicated that the

people, especially the creative learners have special features in terms of characteristics, like most of them are tend to independence, have a high acceptance from themselves, and have so much energy and intuitive thinking.

The eighth indicator: the study style is a subset of the individual factors which its mean is 11.70; and it meaningfully measures the concept of the individual concept with the effect coefficient of 0.43. It is thinkable that the students choose what study style and how they study; and their way can be graded in this part and the context and headstock can be provided in the way that the student can use all of his facilities and capacity in regard to be effective on the creativity and its development and growth. Also, all of the hypotheses posed about the relation between each of the individual factors and the creativity have been confirmed except the hypothesis 2-8 which was “there was no meaningful relationship between the creativity and the study style of the students of Islamic Azad University (region 8)” and this hypothesis was rejected.

In his study, the researcher came to the result that the individual factors are from the important factors for the creativity of the students which have a direct effect on the creativity, and even it can be said that they influence the environmental factors, and when both of them enter as the creativity predictors, the role of the environmental factors is faded and a very significant point is that it must be paid attention to is the role of the environmental factors causes the growth and development of the creativity through improving the individual factors.

Assiduity and perseverance, critical thinking, independence, self-confidence, ambiguity tolerance, self-efficiency, creative self-efficiency and the study style are from the individual factors and characteristics of the students, and the environmental factors can be influenced through improving these factors by the student himself, and as a consequence, the development and growth of the creativity can be influenced. The student with all of his characters is a part of the environment and influences it and also is influenced by it, and ultimately, in this model the growth of creativity has been adjusted to 64 percent by the individual and environmental factors.

In order for improving the assiduity and perseverance of the student and paying attention to it, increasing students' self-confidence, recognizing the feature of ambiguity tolerance, students' getting familiar with self-efficiency and creative self-efficiency, preparing and providing them for critical thinking and selecting the most desirable study style and method, we must prepare a headstock for a more productive environment and the students can build a more productive university environment with a richer perception of the learning and training environment and flourishing their talents.

If the professors train the students how to learn and also motivate their thoughts, they can take steps toward the critical thinking and creative thinking and their mind can be pushed toward dynamicity and activate it, and also the students can be educated to be pre-acted instead of reacting against various situations (Miller, 2001, quoting from Qourchian). When the teacher has the sense of responsibility, the society grows in the classroom. In fact, the society which is intended to move toward the stable development must take its first step in the classrooms of the schools and universities.

When the planners and the assistants of the university attempt to provide an atmosphere or a culture in which they consider learning and knowledge valuable, make transferring theories and actions easy, amplify the ability of transferring learning, encourage exploratory, experimental and solution approaches, change the mental model related to the learning (the mental model which the people have about the learning from childhood), and build participatory atmosphere for continuous learning (Jafari & Erfani, 2010), in this case it can be said that we have rather provided the context of growth and development of the creativity for students.

As Farasat Khah (2014) has stated, advance opinions of today's world require university like a smart, learner, creative, dynamic organization and agile in operation instead of turning into an ideological organization for the government or nation etc.. It is expected from the university training to be a context for active learning and participation of the new intelligent generations and to be the headstock and base for developing unknown capacities and various human creativities.

Therefore, the researcher has dealt with the matter to provide a context for growth and development of the individual's unknown capacities which creativity is one of them about the university's goals.

Such that, Amabil (1989) believes that in order to develop creativity, training appropriate entries or planning for development of the creative talents are not just enough, but also we should help the people to determine the points which they are compatible with in motivation and skills or the intersection of the creativity. This place is the intersection of a powerful combination because the possibility of creativity is provided in this point. Therefore, the basic point after recognizing the individual features and various plans for the environment is to create meeting point of the motivation of the students and their knowledge and skills with each other so that they can make some changes in interactions with each other in classroom and university environment which are followed by the creativity; and as (Chi Lu An, 2010) believes, in an increasingly changing world, the critical thinking of the graduated students of the universities is basic and important; because the same graduated students must analyze and examine the issues and face the new challenging issues in a not so far future.

Conclusion:

Culture: the environment of the university will play role in efficiency on the creativity of the student through a warm, supportive and open atmosphere. Planners and assistants of the university must try to provide a cultural atmosphere that they considers the learning and knowledge valuable and they must create a participatory atmosphere for continuous learning.

Ambiguity tolerance: it is facing with unknown or undetermined conditions and the student will have a higher capacity of flexibility and the ambiguity status must be treated as an opportunity.

Self-confidence: The students act independently and they are bound with their beliefs. Due to the effect coefficient, ambiguity tolerance indicates that the student with a high self-confidence can better use his / her mental power and analyze the issues in the ambiguous conditions.

Creative self-efficiency: The student has a strong imagination of being creative and he has accepted this reality that he can be a creative person, he can use this opportunity and possibility of the university very well because the mind can only understand what that it has been prepared for receiving it.

Independence: The independent students show a higher acceptance and have a lot of energy.

Critic thought: The University in fact will breed the students as better thinkers through providing the field that how they think, process the data and train and learn some special skills of critical thinking.

Perseverance and assiduity: perseverance and assiduity have caused that the student has the ability to deal with hard problems, he can obtain knowledge through study and research, and apply this knowledge through a lot of thinking and experiment and long test.

Emotional- mental atmosphere of the class: if in their training method the professors teach the students how to learn and also motivate their thoughts, they will activate the student's mind and push it toward dynamicity and they can breed the students who can pre-act against various situations instead of reaction. When the teacher (professor) has sense of responsibility, the society grows in the classroom. In fact, the society which is intended to move toward the stable development must take its first step in the classrooms of the schools and universities.

Self- efficiency: self- efficiency for the student means that how he organizes the required methods to reach the expected situations and apply them. In addition, it is effective on the creative self- efficiency of the student through the effect coefficient.

Study style: the field must be prepared in such way that the student can use all of his equipment and capacity in regard of being effective on the creativity and its growth and development. It is thinkable that the students select which study style and how they study.

Perception of the learning - teaching environment: Students can use the classes in a way to see curiosity and stimulations of thought and to be encouraged for participating in the class discussions. Therefore, the students must consider that the professors accept their new ideas and comments and a good relationship and interaction must be between the students and professor while teaching.

Social support: social support means that the student's friends, family and classmates support him and help him solve his problems and care about his emotions. Therefore, when the student is paid attention to in the university environment and the university assistants do not indifferently ignore the problems of the students, we can reach the logical support from the students and this will influence other sections of the university in its turn. So, regarded to the importance of the universities in economic and social development of every society and training creative and dynamic students who will be considered as an influential and valuable outcome in the process of stable development of the country, the planners and politicians must pay attention to the universities with a sharper look in order for them to take basic steps towards the stable development.

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