



The Relationship among Educational Creativity and Educational Self-Actualization in Students

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ABSTRACT: The present essay has studied on the relationship among students' educational creativity and their educational self-actualization. To select sample group, multi-stage randomized cluster sampling method was adapted to choose 382 participants. In this investigation, measurement tools were creativity questionnaire made by Abedi including dimensions of fluidity, elaboration, originality, and flexibility, and also educational self-actualization standardized questionnaire that comprised of sixteen questions. Reliability of measurement tool was calculated by Cronbach Alpha Coefficient where this value was 0.74 for creativity and 0.80 for self-actualization. Validity of both tools was examined by face validity technique. Then, data were analyzed by means of correlation tests and step-wise regression. The results of correlation indicated that there was a positive and significant relationship among variables of fluidity, elaboration, originality, and flexibility with educational self-actualization. Also the results came from stepwise regression showed that educational self-actualization is interpreted by variables of fluidity, elaboration, originality, and flexibility.

Key words: Educational Creativity, Fluidity, Elaboration, Originality, Flexibility, Educational Self-actualization.

Received 25 Dec. 2013
Accepted 28 Feb. 2014

ORIGINAL ARTICLE

INTRODUCTION

Creating self-actualization in students' mind is one of the highly important tasks in educational and training system in the society. Self-actualization may be considered as self-expressing of a unique personality. Self-actualization requires self-consciousness. Schools, high schools, and universities should make students aware of their abilities and talents. At beginning of education, they should consider this fact as important that they build their peerless personality and also they will build a unique future. As the student becomes matured, the basis of peerless personality should be deepened and completed in student. He or she should comprehend uniqueness of his/her surrounding people at the early years of primary school as well. Regardless of believing in life for the sake of self-actualization and helping others in their self-actualization, making any attempt for dealing with their own will lead to a type of unhealthy self-decadence. To thrive well, self-creativity requires to personality of other ones (Lotfabadi, 2000). In humanistic psychology, self-actualization means realization of the maximum potential capabilities of a person by oneself. Self-actualization refers to this phenomenon that humans tend to advance beyond their basic needs namely those requirements that have been listed in Maslow's

needs hierarchical pyramid. Humans try to use facilities optimally by self-actualization and flourish their latent talents whether these talents are of any kind. As Abraham Maslow expresses: "Human should be what he or she wants to be." What is important in learning process is educational self-actualization. In fact, educational self-actualization means that during their education and learning career, students can acquire competencies and merits that they have and realize their potential learning and educational talents. But what it should be taken into consideration is that regardless the effective variables on this factor, self-actualization may not be realized so those factors should be addressed. Studies done by Solemani (2005) have shown that educational creativity is related to educational self-actualization. Interesting in learning causes individual creativity. Creativity is not something that is put at disposal of certain group but it is a mental capacity which all people possess some part or level of that characteristic and it can be thrived by proper training and converted into practice. Creativity typically takes subject of problem solving into consideration. According to this view, creative thinking is process of sensing the existing problems or deficiencies in information, hypothesizing about solving of problems and removal of deficiencies,

evaluation and testing of hypotheses, revising and retesting them, and at last transferring the results to others. Creativity leads to students' educational achievement and the more students comprehend educational achievement and progress the higher self-reliance they will acquire and for this reason they make greater effort in the course of realizing of learning objectives and thus self-actualization (Karbasi and Vakilian, 2003).

Research Background

Students' self-actualization and changing their educational talent into practice are the superior goals in teaching-learning systems. Training and teaching experts have always tried to provide conditions for students to show their effectiveness at maximum level (Talebpour, 2002).

Term self-actualization was introduced for the first time by Kurt Goldstein. According to his view, this is the main motive and in fact the only real motive for a person and other motives are solely reflected from it. Quoted from Moghadam et al. (2008), by the aid of his experience in treatment of soldiers who suffered from brain traumas, Goldstein acquired an attitude about the characteristic of a healthy organism. According to his idea, unhealthy organism has mechanical action while a healthy organism has a flexible performance. Maslow argues that psychotic people are similar to Goldstein's patients with brain traumas who try avoiding from strange and odd objects thereby to preserve their balance. Yung deemed individualization as synonymous with self-realization. That is integration of heterogeneous elements of personality and converting them into a matched and unique pattern. The features that Yung has been enumerated for individualization are as follows:

- The subjects of individualization are at middle age since they have passed the severe crises that are considered as the basis for transformation of personality.

- They have achieved the higher stages of self-concept. Individualized subjects accept oneself with all weakness and deficiencies.

- Third feature of this group is integration of personality.

- The fourth is to accept human's nature and for this reason this group are more sympathetic with other humans.

Human's nature means what it refers to reality of humanity. Human's nature has a series of weak and strength points. He or she possesses reasoning potential with its specific emotions and feeling and also human's nature has certain intuitive powers that are called as instinct. Fifthly, they are not frightened by unknowns. These unknowns cover irrational factors and what it contradicts to wisdom and logic as well as metaphysical phenomena. Existentialist philosophers

also purpose some certain interpretations concerning to self-actualization (Ames, 1990).

After study on his small sample of self-actualized persons, Maslow implied twelve characteristics for self-actualization which include: High-effective perception of reality, accepting oneself and others and nature in general, simplicity and natural feature, concentration on problems instead of self-concentration, need to independence and possession of privacy, fresh and constant perceptual sense, mystic experiences, social interest, inter-personal relations, creativity, democratic personality structure and resistance against cultural assimilation. This system is really a wonderful group of features and introduces these individual as holy people but these persons are not always perfect and in fact they suffer from some disadvantages as well. Maslow found that they may often become impolite and even extremely cruel, cool, and bitter as well. They also tend to fear and sense of guilt in some moments but these events are certainly odd and exceptional in their behavior and it rarely takes place (Gholami, 2006).

One of the most excellent and complex activities of human's mind is creativity to which training and teaching system should pay attention. Creativity not only concerns with intelligence and thought but also individual personality organization. Openly training of child under the condition in which parents have different strong interests may cause to emerge feature of creativity in children. Thus, rearing of children and training their instinctive talents are considered as very crucial issues which should be considered by mentors and parents while teachers should provide the facilities to realize creative thinking in schools and students should learn gradually the basic concepts of various sciences in order to be exposed to life problems creatively and change their surrounding world in appropriate direction. The mental images that we present to our children will form their future. These mental pictures (mindsets) are purposed as several anticipations that will come true and at the same time your mental image (mindset) form your happiness, usefulness, and creativity of your children. Certainly, your mindset for each of your children will be effective more than what you done and or said in growing their motive for creativity and success. One of the questions that have preoccupied the mind of many researchers and thinkers in education and training field is that whether one could train creativity. Results of studies done by Budo and Torrance have indicated that the creativity that is observed in all human's individual and cumulative activities exists potentially at high and low level and it is trainable in all humans and in order to train creativity, the opportunity should be granted to children to think and they should be preserved from

doing cliché and predetermined activities as possible (Fazeli, 2008).

In the book of training creativity by allusion, Sanders and Sanders emphasized that to train creativity, the opportunity should be granted to children to think and they should be avoided from doing cliché and predetermined activities as possible. Regarding training of creativity, the studies of Albrecht (1987) and Mohammadi Khataman (1991) have shown that creative persons have potential for training creativity in others much more than the non-creative persons.

Concerning to creativity concept, several and often contradictory definitions have been proposed but an unanimously consensus about the following definition has been observed generally: Creativity is individual's potential for producing ideas, insights or novel objects, innovation, and reconstruction in sciences and other fields that are deemed as original by experts and valuable in terms of scientific, aesthetic, technology, and social aspects (Shafran, 2002).

In Holy Quran, sometimes term "creation" has been interpreted as "making subservient" when it states in Sura of The Kneeling (45:13): "And He has made subservient to you whatsoever is in the heavens and whatsoever is in the earth, all, from Himself; most surely there are signs in this for a people who reflect." Fredrick Froebel, as one of the most famous creativity mentors and masters, paid attention to subject of creativity and asked: if creativity was an internal or external process? Does it require discipline or self-motivation? He argued that creativity is one of human's needs. Today, psychological studies have indicated that creativity is not an intuitive process but it may be trained. With training, we can learn or children to think about odd techniques and to solve the problems via divergent thinking in order to find appropriate solutions. This is the subject that we let the trainers to think in this area for which creativity is not a prefabricated stream but a generative and variable trend. Halpern purposes creativity as the ability to form a new composition of views or ideas to meet a need or to realize an objective. According to Perkins' view, creativity is a thought that constitutively leads to new and novel results. According to William James, we all possess potential and talent for creativity but unfortunately through and during life path and training process; we learn not to be creative. In other words, at a general level, learning environment including home, school, and our community, makes us to be accustomed to convergent thinking (Lavasani et al., 2007). He maintains that childhood is the start point of forming a creative thinking trend. In Encyclopedia of Psychology (Isneck, Arnold, Myles), creativity has been deemed as the capacity for observing new rations in emerging of odd thoughts

and ideas and receding from thinking traditional paradigms. According to studies of Doron and Parot (1991), creativity is a complex talent that regardless of intelligence and cognitive function and probably subjected to flowing of thoughts, inductive reasoning, improves some perceptual features, personality, and also divergent intelligence to the extent that such intelligence prepares various solutions and products for this purpose.

According to Gholami (2006), in Psychology Dictionary, Pierson has defined creativity as follows: Creativity is inventive action of constructive imagination and based on the theories from Gesell and Jackson, it is something beyond normal intelligence and at the same time according to some researchers, creativity is deemed as the opposite point of coordination and based on their view, creativity means original ideas, different comments, and way of looking at issues differently. Quoted from Andrew Porter (2011) and many psychologists have considered creation and problem-solving as similar processes. Garnier calls problem-solving as the highest level of learning and argues that creation is a special type of problem-solving. Also Mackinnon deems creativity as problem-solving along with an innovative and new essence.

Based on Seif (2007), deems creativity as a peerless talent in a specific field and based on Gilford's view, intelligence and creativity are considered as two separate mental factors and he calls intelligence as convergent thinking and also creativity as divergent thinking. According to his viewpoint, the distinctive factor for distinguishing among creative and divergent thinking can be recognized again by flexibility, originality, and fluidity (Seif, Learning and Teaching Psychology).

Similarly, theorists in psychology argue that creativity is arisen from internal stimulation. According to Asgari et al. (2007), believe in that the behaviors that are stimulated from inside are caused by a type of enthusiasm for acquiring of experience in one field. Review of the above definitions shows that some of them dealt with internal stimulation while some others considered individual potential for creation of new ideas, and some of them have embarked on ability of problem solving and a type of divergent thinking as well as result and product of creativity. Thus, creativity comprises of the ability to observe objects by means of new techniques, learning by previous experiences and their relationship with the new situations, thinking in line with removal the barrier and abnormal lines, taking non-traditional approach for solving problems, creation and invention of new and innovative thing, and passing through several steps beyond information. As a result, teaching and learning process may train creative thinking and

explorer, creator, problem- solver, innovator, productive individuals and agent for change.

With respect to what it mentioned, this study is mainly intended to test the following hypotheses:

1. There is a relationship among educational creativity (fluidity) and educational self- actualization.
2. There is a relationship among educational creativity (elaboration) and educational self- actualization.
3. There is a relationship among educational creativity (originality) and educational self- actualization.
4. There is a relationship among educational creativity (flexibility) and educational self- actualization.

MATERIALS AND METHODS

The current investigation is of applied type in terms of goals, and qualitative in terms of data, and of correlation kind in terms of nature and study type for which we examine its impact on dependent variable without manipulating independent variable.

Statistical population, sample and sampling technique

The studied statistical population in this survey includes all high school students from Training and Educational Organization at Isfahan City during academic year (2012-13) that were totally 68247 students. To select the sampled control group, 382 participants were chosen by means of Morgan’s Table (1970) and multiple stage randomized cluster sampling method.

Measurement Tools: The following tools were utilized to collect data:

1. Abedi’s creativity questionnaire including dimensions of fluidity, elaboration, originality, and flexibility. Coefficient of internal consistency of this tool has been acquired by means of Cronbach Alpha coefficient for the sub- scales of fluidity, flexibility, originality, and elaboration that tested on 2270

Spanish students as 0.75, 0.66, 0.61, and 0.61 respectively .Kefayat (1994) has used bisection technique and Cronbach Alpha coefficient. By using bisection method, test total coefficient value was obtained as 0.87, fluidity 0.78, flexibility 0.63, and originality 0.40, and elaboration as 0.67 so all of these values were significant at level (0.001). Abedi (1996) acquired it by means of re-test, internal consistency technique and Cronbach Alpha coefficient where the values of correlation were 0.023 in variable fluidity, elaboration 0.444, originality 0.416, and flexibility as 0.595. The coefficient of internal consistency was obtained by Cronbach Alpha techniques for variables of fluidity, elaboration, originality, and flexibility as 0.67, 0.48, 0.68, and 0.55 respectively.

2. Educational self- actualization standardized questionnaire comprised of sixteen questions with four dimensions namely cognitive dimension (questions no 1-6), emotional dimension (questions no 7-11), and psycho- motor dimension (questions 12-16).

RESULTS

The findings of the present study are purposed in two parts as follows.

- I) Data description: In this part, descriptive statistics is used.

As one can observe in Table 2, the relationship among fluidity (0.25), elaboration (0.112), and originality (0.269) and educational self- actualization at level 0.001 as well as the relation of flexibility (0.204) with educational self- actualization are directly significant at level 0.05. In the following, in order to examine how much creativity variables (originality, fluidity, flexibility, and elaboration) could predict educational self- actualization, the stepwise regression has been adapted. In stepwise regression, based the rate of their correlation with self-actualization, variables (originality, fluidity, flexibility, and elaboration) enter into this model.

Table1. Descriptive parameters of research variables

Variables	Minimum	Maximum	Mean	Standard deviation	Kurtosis	Skewness
Self-actualization	2.29	7.11	3.8074	0.72404	0.964	3.660
Educational creativity based on fluidity dimension	1.36	2.77	2.3290	0.27756	-0.983	1.382
Educational creativity based on elaboration dimension	1.00	2.73	2.0310	0.31307	-0.269	0.620
Educational creativity based on originality dimension	1.00	3.00	2.1754	0.35315	-0.591	0.830
Educational creativity based on flexibility dimension	1.60	3.30	2.6432	0.37959	-0.428	-0.401

Table 2. Results of Pearson’s correlation coefficient for review the relationship among educational creativity (fluidity, elaboration, originality, and flexibility) and educational self- actualization

Title of dependent variable	Title of independent variable	Correlation coefficient	Significance level	Interpretation
Educational self-actualization	Fluidity	0.250**	0.001	Direct & significant
Educational self-actualization	Elaboration	0.112*	0.029	Direct & significant
Educational self-actualization	Originality	0.269**	0.001	Direct & significant
Educational self-actualization	Flexibility	0.204**	0.001	Direct & significant

*=P <0.05; **=p<0.001

Table 3. Summary of regressive analysis on educational self- actualization

Variables entered at any step	R	R ²	Δ R ²	Adjusted R ²	Δ F	Significance level
Originality	0.269	0.073	0.73	0.070	29.714	0.001
Fluidity	0.292	0.85	0.12	0.080	5.156	0.024
Flexibility	0.298	0.298	0.004	0.081	1.535	0.216
Elaboration	0.312	0.097	0.009	0.088	3.662	0.056

The above table shows f- value and its significance level in all steps of entering the predictor variables. As it seen, F-value is significant at all four steps. Namely, entering of variables originality, fluidity, flexibility, and elaboration is significant. With respect to values listed in the above table, variable of originality may interpret variance of educational self- actualization approximately at 7% that is a significance value. At second step, variable of fluidity is added to this analysis. At this step, value is 0.012 and this difference is significant; in other words, fluidity can interpret educational self- actualization and rate of interpretation is significant. By entering variable of flexibility in the analysis at third step, value is equal to

0.004 but this value is not significant; namely, flexibility could not interpret educational self- actualization so interpretation value is not significant. At fourth order, by entering variable of elaboration into the analysis, value is 0.009 and this value is not significant. In other words, elaboration could not interpret educational self- actualization. In the following, in order to examine significance of regression namely this point that if predictor variables (originality, fluidity, flexibility, and elaboration) can effect on prediction of variable of educational self- actualization or not, one- way ANOVA is used to test it. The results of this test are given in the following table.

Table 4. Results of one- way ANOVA relating to predictor factors

Model		Mean squares	d.f	Sum of squares	F	Significance level
1	Regression	14.381	1	14.381	29.714	0.001
	Error	183.903	380	0.484		
	Total	198.284	381			
2	Regression	16.849	2	8.424	17.598	0.001
	Error	181.435	379	0.479		
	Total	198.284	381			
3	Regression	17.582	3	5.861	12.260	0.001
	Error	180.702	278	0.478		
	Total	198.284	381			
4	Regression	19.321	4	4.830	10.175	0.001
	Error	178.963	377	0.475		
	Total	198.284	381			

Table 5.Regression coefficients of self-actualizations

Model		β	Error	Beta	t	Significance level
1	Fixed value	2.628	0.219		11.984	0.001
	Originality	0.546	0.100	0.269	5.451	0.001
2	Fixed value	2.163	0.299		7.231	0.001
	Originality	0.377	0.124	0.186	3.035	0.003
	Fluidity	0.357	0.157	0.139	2.271	0.024
3	Fixed value	2.026	0.319		6.357	0.001
	Originality	0.338	0.128	0.167	2.639	0.09
	Fluidity	0.299	0.164	0.116	1.819	0.070
	Flexibility	0.136	0.110	0.072	1.239	0.216
4	Fixed value	2.158	0.325		6.639	0.001
	Originality	0.434	0.137	0.214	3.164	0.002
	Fluidity	0.424	0.176	0.165	2.405	0.17
	Flexibility	0.114	0.110	0.060	1.036	0.301
	Elaboration	-0.238	0.148	-0.123	-1.914	0.056

As it observed in the above table, the relationship among variables of originality and fluidity with educational self-actualization is significant but there is no significant relationship among flexibility and elaboration with educational self-actualization and with respect to the resulting coefficients in this table,

the following regression could be written for criterion variable (educational self-actualization):

$$\hat{y} = \text{Fixed value} + b_1x_1 + a$$

$$\text{Educational creativity} = 2.15 + 0.43 (\text{originality}) + 0.42(\text{fluidity})$$

Thus, it can be concluded that variables of originality and fluidity have significant role in prediction of the educational self-actualization.

DISCUSSION

The results of the current study indicated that there is a significant relationship among educational creativity (fluidity, elaboration, originality, and flexibility) and educational self-actualization. By considering their theory (Dweck's self-theory), Ahmavaara et al. (2007) came to this result among British high school students that the idea that persons have about their own is related to their educational achievement. Likewise, intelligence might indirectly effect on their educational achievement, confidence, and pride. The results of studies done by Nezami (1997) about educational performance, creativity, and social adaptation indicate that creativity and social adaptation are the improving and enhancing factors for students' performance so that the creative and compatible in terms of education and environment are also high-achievers in education. Therefore, to develop educational self-actualization in students, the ground should be prepared for improving educational creativity among them.

Quoted from Fazeli (2008), in his studies concluded that characteristics of mentor and his/her teaching techniques may lead to improve creative thinking. Those trainers, who adapt child-oriented training method, make children sensitive to environmental surrounding stimulants. They avoid from cliché patterns and organize the class in such a way that to create a various and creative environment. As a result, this method causes improving and growth in creativity among children. The conducted studies show that the teachers who like to change their daily teaching methods can learn creativity.

Creativity training strategies build an environment full of curiosity and variation. Whitehead argues that teaching job should have a specific certainty and successful teacher should exactly know to what subjects their students need. The review on way of educational relationship by creative teachers has shown that they usually adapt the following techniques:

1. Using five senses; paying attention to various senses and using them properly and on time in learning process. Studies conducted by Shahraray (1996) have indicated that these persons mainly use audio-visual and computerized facilities, communication channels, and other educational aids.

2. Employing direct experiences: Role of creativity trainers in preparation of the platform for manipulation of objects, experience, and experiment; encouragement for finding of new solutions; and

encouraging learners to guess (sounding) for invention and innovation.

3. Application of the method of free and mutual discussion and dialogue: Using self-motivated utterances and free and mutual and non-cliché dialogue; encouraging the learner to express their comments and critiques and providing appropriate conditions for social and mental transaction' giving answer indirectly to their curious questions (Yarmohammadian et al., 2013).

4. Adapting active method in teaching: To strengthen creativity potential through automatic activities with reliance on objective experiences and broad-based facilities; growth and development of freedom of action and comprehensive independence; lack of reliance on cognitive memory and emphasis on perception and comprehension; analysis, composition, evaluation, and problems solving in teaching (exploratory method).

5. using of brainstorming or brain quest

Adaption of different methods for problem solving; giving opportunity needed for contemplative thinking and expression one's comment freely; guiding role of teacher and learners' active participation in learning process

6. Using a composition from divergent and convergent thinking method

To create balance among these two thinking techniques and using them together; giving opportunity to learner to acquire principles, knowledge, and information in several areas individually or in group and providing the appropriate ground for divergent thinking

7. Paying attention to individual differences

To recognize individual differences of learners; to adjust contents and methods of teaching and learning that include creativity. Thus, creativity is not an intuitive potential but it is a methodological approach that most of persons can learn it.

In summary, one can refer to infrastructural principles for improving creativity skill as follows:

1. Teacher's different view toward teaching subjects

2. Adaption of various teaching methods and different strategies

3. Changing evaluation and measurement tools

Therefore, researchers and policy makers, particularly classroom teachers shall consider creativity as an important element in self-actualization of students and prepare the ground for growth and training more than ver.

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