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INVESTIGATING THE DEVELOPMENT OF CREATIVITY AND CRITICAL THINKING IN STUDENTS

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ABSTRACT

The purpose of this study was to assess the current situation and the desired role of school administrators in the development of critical thinking, creativity and high school students in Tehran. The method of research is mixed. The population consists of all middle school teachers are public high schools in Tehran that their total number was 9,056 in the academic year 2013-2014. The sample consisted of 17 individuals selected at interview stage to reach theoretical saturation and 355 on the quantitative and Morgan Krjys table, and the sample interview stage is a little research, purposeful, and cluster sampling were selected. Primary data using semi-structured questionnaires and questionnaires have been collected by the researcher. The validity and reliability of the questionnaire was approved. The validity of construct validity using exploratory factor analysis to validate the procedure loadings and Cronbach's Alpha was 71.95, which amount is equal to 91/0. For the study of descriptive statistics (frequency distribution, mean, stretching and skewness) and inferential statistics (exploratory factor analysis, t-test) was used.

Given the assumptions of factor analysis, 5 of the 31 items were identified as follows, which can managers through the development of creative and critical thinking, students will work: 1. Education and Creative Thinking Critical to students, (2) foster critical and creative teaching methods to teachers, students (3) motivation, (4) creative and critical environment in the school environment and 5- good human relations in the school environment. The results showed that, based on the t test All, all components in the current situation is less than the average level in more favorable conditions than the average. Overall, the results suggest that the management of schools currently require a small amount of these components is a desirable situation far.

Keywords: *Creativity, Critical Thinking, Management Training, Secondary School Teachers in Tehran*

INTRODUCTION

During the study of critical and creative thinking have never been the subject of how we wanted our attention not only of the issues presented as it is expressed exactly as, and without any assessment and review of Creativity Delivery We (Jvady and Karami, 2007, quoting a lawyer and trustee, 89). Unfortunately, the educational system of our society and nurturing creative people and critic is the idea and instead foster a spirit of creativity, innovation, critical and creative minds focus more on the memories (Fala'ah, 2009). Fortunately, in recent years, educational psychologists' emphasis on transferring knowledge to students in high schools and teachers more criticized the skills of thinking in the learners enjoined (Seyef, 2000 maleki quoted as habibi pour, 2007). Some theorists, thinking skills in the broad context of hierarchical classification that in the meantime, Swartz and Parker (1994) in his classification, creative thinking and critical thinking ability of nuclear knowledge and making them the center making and problem-solving have been introduced (Burke and Williams, 2008).

Jean Piaget, the fundamental purpose of education is to train people who are capable of doing new things and just what other generations have done, repeat not, the people who are creative, inventive and have explorer. The second goal of education is the cultivation of the mind that he has to accept whatever is offered to them, they can critique it and its authenticity is to measure the (Fisher and Safayi translation Najjarian, s 2008).

Balin discriminate between them is impossible to know precisely because he believes the notion of good quality measures and also to produce a new and novel. The difference between the critical thinking and creative thinking in them, but not in there and, therefore, programs and activities of schools must reflect

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the fact that the promotion of each one of them will be another promotion. Education experts in critical thinking in terms of scale, and the evaluation of the cases and creative thinking from the perspective of the production of new and creative thinking on new production and critical thinking on documentary judgment. Creative thinking has a special character and the desire to explore new issues departs (Shabani, 2003).

Harris (1998, quoted Glaser and Estuovarz, 2007), the difference between the critical thinking and creative thinking in this critical thinking that analytical thinking, convergent, deputy, objective, verbal, and in case the creative thinking productive thinking, divergent, marginal, scattered, mental image, and participation. Smith (1992), creative thinking and critical thinking is not much different. Every few Mazino *et al.*, (1989, quoted Hoseini, 2009) of critical thinking and creative as a later, but the two later at the same time, the two are different from each other.

Critical thinking is a reasonable and sensible thinking on what the decision is focused and criticism, and finds the defects. The aim of critical thinking evaluates the suitability of the way. How to behave, while the creative thinking of innovative thinking and a way to find a way is unique. In the main activities such as problem-solving both kind of thinking has important role. First, the issues, then the solution to the problems we produce after the appropriate solution, and, eventually, part of the solution that will be implemented.

One of the factors affecting the growing creativity and critical thinking and director of the leader of the students. Gill (2006), believes that the creative people and a critic of the need to leader and a manager to be creative. For him, the director of the necessity of creativity, creative time, teachers and students. He too much emphasis on the part of the power and says that his colleagues and students of knowledge, information and new ideas, to get their mind and the field for creativity and critical thinking of them.

Managers who wish to growth and prosperity and the students in our thinking and it's always the needs and wishes of emotion, people have a special attention, the forces of their potential. The managers, in addition to question the way of thinking and others, and in some sort of prospecting, vision and objectivity that would cause a dynamic and their organizations and individuals and school (Mirkamali, 2008).

Creative director at a training center with regard to the role and the participation of the students, employees and teachers in the executive affairs with a spirit of flexibility, liberal and, in the first stage, the confidence of his colleagues and students.

In this regard diversity of ideas, new ideas and new initiatives in all fields and in the entire working plan from any of the people can be subject to the tyranny of it. Creative director of always try to people without offering them to lead to new methods. In this context, what is important to strengthen the spirit of initiative and self-belief in between students and staff that should be from the academic unit to the desired. Unfortunately, in our schools managers of its role in return for the growth of creativity and critical thinking students have been neglected and only to the formal administrative and their work.

Literature

Unfortunately, a survey of school administrators in the development of creativity and critical thinking were found to express, but research suggests that many factors that involved creativity and critical thinking can provide these circumstances, and the manager to play on back. Research in this area will be discussed below.

Significant Falah (2008) found that teachers use modern teaching methods, students provide conditions fostering creativity. Pirkhaefi and colleagues (2009) demonstrated that creativity training improves cognitive components of creativity in students have been trained. Sharifi and Arbitration (2009), the average performance of students who were trained with content and creative ways to significantly higher student performance in content Azmyangyn common methods are trained, evaluated. Hashemian Race (2001) 8 Skills To The description For Thinking Critical At View Taken The It is 1 question, 2 Analysis, Three Assessment, 4 Relationship The, 5 Argument, 6 Organizing Concepts Scientific About 7 Use Vocabulary

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Critical 8 Learn Recognition For Thinking Critical. World (2001) Education Thinking Critical Exclusively from Way Research Process Possible Knows. Alipur (2004) suggests that the content of school civics none of critical thinking skills (analysis, synthesis, evaluation, and summary judgment) does not develop.

Rnzuly (1999) in a study of factors affecting foster the creativity of three teachers, students and curriculum knows. Thus, the most important component of fostering creativity in the school knows. Gtzi and Jackson (2010), one of the key factors in fostering creativity in students' attitude to the problem creativity of teachers and students understand the creative. They believe that most students are creative, less obedient and less coordination with the crowd and their behavior is unpredictable, so some teachers think that they are creating trouble. These included five principles regarding the question of students, students' attention to fantasy, explained it to the students that their opinions are valued, for their work to do, and do without the evaluation and implementation evaluation causes and consequences by teachers, students consider important factors in fostering creativity. Amabil (1990), in their study, teacher, role model and openly express their feelings, such as love, joy, curiosity in providing a positive environment in the classroom, having intimate relationships and with love and respect for the rule of human relations in the classroom course, giving students the opportunity and autonomy to nurture the creativity of the students is the most important factor. Gardner (2002) has shown that mentors, teachers and mentors have played a very important role in motivating creative people. Eric (2005, quoted Mirkamaly and Solar, 2007) component in the foster creativity in students, teachers, curriculum content, family, teaching methods, learning environment and the students noted. Adair (1995), the most important factor in fostering creativity in students, especially in elementary school learning environment is suitable for the family and relationships. Albert (2005) in a study of students' intrinsic motivation factor is creativity. His research showed that people value creative work, along with the inner motivations. When people are self-motivated, enthusiastic and situations that require creativity and their ability, they will seek to make their venture. Eric (2005) found that creative people, share common characteristics, such as interest in experimentation, confidence, independence, flexibility, willingness to take risks, courage and personal courage, initiative, perseverance, curiosity, humor, attitude For complex tasks, motivation, sense of security and joy in their work. Thus, the most important factor is one's own creativity. Sternberg (2003) found that students with innovative features, such as high levels of achievement motivation, curiosity, too, much like the arrangement of things, the ability of self-expression and character, perseverance and discipline at work, independence, critical thinking motivation, enthusiasm and feeling great, beautiful friendship, love of art, high sensitivity towards social issues, intuitive thinking and the ability to influence other people. Egan (2005), the main constituent elements of creativity, personality factors such as the position of the internal control and intrinsic motivation of the students knows and elsewhere, human resource development, feedback-making, leadership, creativity, also cited teaching methods of teachers it is. Kandmyr findings and Gyor (2009) on the use of creative problem solving scenarios in mathematics by teachers indicated that training increases solving skills it was innovative in school. Bear (1988) Long-term effects of training in creative problem solving and examined the results of more efficient methods of problem solving creativity of students to be achieved. Patamay (2006) showed that training significantly improved in terms of innovation and creativity in students is its cognitive component. Maby (1996) in social psychological theory of creativity focuses on the role of intrinsic motivation in creativity than others. He believes that creativity in the form of a hybrid model in three dimensions is essential subject skills, creative skills and the

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motivation task. Mabyll looks after the creative impulse that is formed under the influence of environmental factors. The relationship between creativity and motivation with the "principle of intrinsic motivation," he explained. The internal excitation source of creativity. Research Rushton and Larkin (2001) suggests that external incentives such as reduced motivation and creativity can be assessed. While intrinsic motivation has a significant effect on creativity. "Torrance" in addition to her relationship with the creative work and the kids got older, the relationship between creativity and an environment that influence their creativity. Hsvchnkyv (2006) of the existing learning methods, techniques, and methods foster creativity and enable students to engage and get to know thinking of them very good to learn is to the students and to enjoy also can promote mental abilities, problem solving and creativity to get them. Tanjytanvnt (2011) conducted a study entitled "The impact of Bdyh processing techniques on creative writing skills in English" in Thailand has done. The purpose of this study was to compare the creative writing in English before and after processing techniques using Bdyh at university (Fnyrajamangala) is. The findings of the study revealed that 19 per cent higher than the average grades of students in English and creative writing ability after further processing of the pre-test technique was creative writing skills.

Bvgna and Aybrakvyj (2009) in their study showed that the use of creative techniques and other factors such as duration of teaching, Teaching Methods, of their previous experiences of students in the Creative and attitude Creative teachers to nurture students' creative impact. Hung and Chngygvv (2006) result Creative teaching strategies and learners' motivation was planning skills creatively significantly affected. Pandi 2009, concluded that creativity, the intensities of the organizational structure, leadership style and reward system in the organization is affected.

Decentralized structure, style, transformational leadership, participation in activities, satisfies the needs of inner reward that persons also result from factors that affect the creativity of subordinates. Martin and Trablanch (2003), with several studies, concluded the organic structure of the attributes or values that lead to the development of creativity and innovation, flexibility, freedom, teamwork and coordination. Wade (1995) has identified eight characteristics of critical thinking, inquiry, problem definition and documentation for testing and analyzing assumptions, avoiding emotional reasoning, avoiding a simple matter to other interpretations, and tolerance to ambiguity is) quotes Adiste, (2002).

Paskarl (1999) show the knowledge students that at university to time year presence had score higher ratio to team according knowledge students the university present were not at thinking critical respectively. Ajns and Mary (2005) barriers under the head way facilitate critical thinking at nurture nurses at Africa northern identification they lack of knowledge teachers, the use of procedure education and assessment that thinking critical learners facilitate do not them; attitude of negative teachers to shift and resistance they at equal change, process selection inappropriate background educative weak that thinking critical knowledge students to ease do not gives; community vulnerability inadequate; culture and incompetence of educational language.

Tsyv and Gaav (2007) show that procedure seminar at progress critical thinking effective it is the relationship between the content of the seminar, active learning and critical thinking important implication of the curriculum development and maintenance of student information shows.

Aynaby and Sheikh (2007) research on how to increase considerably high school mathematics teachers to think critically and to compare the perceptions of teachers before and after the educational reform began. Data from 84 schools two times in 1998 and 2004 were collected by interviews with 29 teachers of mathematics. The interview included questions related to teachers' understanding of the role and importance of critical thinking and critical thinking skills in mathematics learning and teaching strategies that can help students improve critical thinking skills, you pay. The results showed that critical thinking in high school math teachers do not pay much attention despite the fact that 15 years have passed since the great majority of teachers of educational reform and adequate understanding of teachers' critical thinking, and although most claiming that they were critical thinking teach more than half of them are able to offer

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a convincing explanation for it and did not have any opportunity to increase critical thinking math classes lead offer. Therefore, it is recommended that the concept of critical thinking in the field of training and practice in the realm of speech to be delivered at the end of the program students will see the results, some suggestions are given homes math teachers (Alipur, 2009). In another study by Bell et al (1998) conducted AD 6, the group was focused on learning strategies and objectives of teaching methods and how to deepen, and use of critical thinking in dealing with cases of nursing at the In clinical situations faced by them. The study concluded that the experimental and theoretical theoretical knowledge students have been strengthened.

Given the above, the main objective of this study was to develop appropriate responses to the following questions:

- 1.) Factors that educational administrators in the development of creativity and critical thinking in high school students are involved, what are they?
- 2.) Each of management factors affecting foster creativity and critical thinking criteria is composed of what?
- 3) Is the current situation and the desired role of managers in fostering creativity and critical thinking of students there?

MATERIALS AND METHODS

In this study, a combination of qualitative and quantitative methods used and the research methodology combines the survey was conducted. The data analysis component of the study is a descriptive-analytic study. The population of this study included all secondary school teachers in public high schools in Tehran in the year 2014 to 9056 people. Depending on the type of sample selection strategy using two types of purposive sampling in qualitative research stage cluster random sampling in the qualitative research was. The number of samples is 355.

To collect the required data through semi-structured interviews and questionnaires of the package has been collected.

To identify the role of Training Manager in the development of creativity and critical thinking for students in first through semi-structured interviews was analyzed, then based on the interviews, questionnaires, was designed. The questionnaire contains 31 items and is the fifth component. Reliability, measured by Cronbach's alpha, which amount was equal to 91/0. To determine the validity of the test, known as factor analysis using spss software is used.

RESULTS AND DISCUSSION

Results

For data analysis, descriptive statistics to characterize and determine the number of data groups and to assess the validity of factor analysis of the main factors and the questionnaire for simple structure extracted the analysis used varimax rotation; also to identify gaps between current and desired state management role in fostering creativity and critical thinking, student's t-test was used.

Results Descriptive statistics show that the majority of women with 72/0, hired by 65/0, 63/0 and 32/0 of them have a master's degree with work experience between 5 to 10 years.

Other statistical indicators to provide scores for teachers in the state of creativity and thinking Antqaday in Table (1) are listed.

Table 1: Summary of statistical indicators of scores of teachers in educational management in the development of creative thinking and critical thinking (N = 355)

Elongation	Tilt	Standard deviation	Mean	Changing
1.07-	.26	3:36	38.31	Creativity and Critical Thinking Training
0.75-	.27	2.65	27.59	Creative and critical education

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.26	.16	1.75	33.23	teaching methods Critical and creative learning environment
.05	.56	2.88	45.18	Motivation
1.00-	0.20-	22.2	28.76	Good human relations

Factor Analysis of the Questionnaire

To perform factor analysis with principal component analysis method, in order to ensure the adequacy of sampling and data correlation matrix are not zero in the results kmo Bartlett's test was used to view the data contained in the table, it can be concluded that the implementation of factor analysis is justified.

Table 2: Kmo sizes Bartlett test results

Bartlett test		
sig	Bartett	Kmo
P = 0/001	2850/053	749 /.

This assessment tool to determine which of several significant factors is saturated; the following three criteria were considered Qrra: 1) the value; 2) the variance of the agent to determine by, 3) The value of Chart for rotated. The specifications for a set of 31 items in the table... Is shown. As is evident in Table 5, with 71.95% of the total variance was determined.

Table 3: Characteristics of the final factor analysis for effective managerial factors in the development of creativity and critical thinking

Percentage of variance explained quite	Percentage of variance explained by each item	Equity	Items	Percentage of variance explained quite	Percentage of variance explained by each item	Equity	Items
93.202	1. One 67	0.361	17	20.372	20:37	6/314	1
94.275	1.073	0.332	18	37.861	17.489	5.421	2
95.259	0.984	0.305	19	51.617	13.756	4.264	3
96.120	0.861	0.266	20	64.517	12.900	3.998	4
96.875	0.755	0.234	21	71.095	6.578	2.039	5
97.564	0.689	0.213	22	73.596	2. 50 One	0.775	6
98.030	0.466	0.144	23	76.072	2. 4 76	0.767	7
98. 415	0.385	0.119	24	78.424	2. Three 52	0.729	8
98. 782	0.367	0.113	25	80.774	2. Three 5	0.728	9
99.132	0.3 5 0	0.108	26	82.984	2. 21	0.685	10
99.448	0.316	0.097	27	85.034	2. 0 50	0.635	11
99.674	0.226	0.070	28	86.596	1. 5 62	0.484	12
99.795	0. One 21	0.037	29	88.102	1. 5 06	0.466	13
99.899	0.1 0 4	0.032	30	89.501	1. Three 99	0.433	14
100	0.1 0 One	0.031	31	90.795	1. 2 94	0.401	15
				92.035	1. 2 40	0.384	16

The Final Solution (After Rotation)

Rotated factor matrix and factor loadings undetected because the structure does not provide, as stated earlier, the decision was taken, based on new methods of using varimax rotation axis to the transfer of The method is relatively easy to Prsnshamh. Varimax rotated factor matrix of the data, shown in the table below.

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Table 4: After varimax rotation factor matrix items

Factor 5	Question	Factor 4	Question	Factor 3	Question	Factor 2	Question	Factor 1	Question
64/0	Three	60/0	12	60/0	4	62/0	9	64/0	21
63/0	8	57/0	22	55/0	25	61/0	10	59/0	2
59/0	31	55/0	26	54/0	17	57/0	13	58/0	14
51/0	30	53/0	20	51/0	16	56/0	15	55/0	5
54/0	19	51/0	23			52/0	27	54/0	7
53/0	24	50/0	31			50/0	30	53/0	18
50/0	28							51/0	29
								50/0	One

Based on the analysis performed, the 5 factors, the criteria for defining and naming such factors were extracted:

- A) The nature and extent of extraction of variables that factor Haas have the largest share;
- B) Check glossary of terms, in order to consider the implications and nature and landscape variables;
- C) Theories and the results of previous studies

According to the above criterion, five factors were named as follows:

Factor One: Questions 21, 2, 14, 5, 7, 18, 29 and 1 (teaching creativity and critical thinking).

Second, questions 9, 10, 13, 15, 27 and 30 (education, teaching methods, creative and critical).

The third factor: 4, 25, 17 and 16 (critical and creative learning environment)

The fourth factor: 12, 22, 26, 20, 23 and 31 (motivation of students)

The fifth factor: 3, 8, 31, 30, 19, 24 and 28 (good human relations in the school environment).

To answer the last question survey to identify gaps between current and desired role of school administrators in the development of creativity and critical thinking, students t-test Correlated the results of which are shown in Table.

Table 5: Relations between the existing and desired role of the principal in the development of creative and critical thinking of students

Significant degree	Difference	T	Degrees of freedom	Mean	Status	Factor
0.00 *	3.62	127.24	354	1.84	Available	Creativity and Critical Thinking Training
0.00 *	3.005	99.34	354	2:51	Available	Creative teaching methods and teachers criticized
0.00 *	3:05	115.38	354	2:48	Available	Creative and critical environment
0.00 *	3:52	145.06	354	5:43	Favorable	Motivation in students
0.00 *	2.91	78.49	354	12.2	Available	Good human relations in the school environment
			354	5.64	Favorable	
			354	2.83	Available	
			354	5.75	Favorable	

Given that t View in $p \geq 0/05$ there was, therefore, can be said that, between the existing and desired role of the principal in the development of creativity and critical thinking for students, there is a significant difference. The overall results indicate that the gap between current and desired situation.

Discussion

The findings of this study suggest that the managers of teaching creativity and critical thinking through 5 students, teacher training, teaching methods, creative and critical, creative and critical create a learning

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environment that, students, and the creation of human relationships. Good motivation school environment may underlie the development of creativity and critical thinking in their students.

The findings were consistent with research Fallah (2008), Pirkhaefi *et al.*, (2009), a noble and Arbitration (2009), Hashemian Race (2001), Abbas (2001), Alipur (2004), Rnzvly (1999), Mabyll (1990), Gardner (2002), Gtzi and Jackson (2010), Adair (1995), Eric (2005), Eric (2005), Sternberg (2003), Albert (2005), Egan (2005), Kandmyr and Gyor (2009), Patamay (2006), Rushton and Larkin (2001), Hsvchnkyv (2006), Tanjytanvnt (2011), Bvgna and Aybrakvyj (2009), Hong and Chngygvv (2006), Martin And Trablanch (2003), Paskarl (1999), Ajns and Mary (2005), Tsyv and Gaav (2007) and Aynaby And Sheikh (2007).

Each component consists of 5 separate indicators are as follows.

First, Teaching Creativity and Critical Thinking in Students. Myers teaching creativity and critical thinking education review and critique drag Problems and problem-solving mind enjoying the ability to objectively analyze knows certain information (Myers, quoted by Abel, 1997).

- 1) Self-control training to students
- 2) Teach students how to learn
- 3) Providing appropriate learning content to students' daily experiences
- 4) Boost students' critical
- 5) And assessment of students
- 6) Enriching educational content to students
- 7) Teaching students the flexibility of the various issues

Second, Teaching Creative and Critical Approaches to Teacher Education. The use of active learning methods that lead to the development of creative and critical abilities in students has been expanded on his vision, and the strength of the content analysis, Review knowledge and ability to solve problems and increase their creativity and initiative (Landry, 2001).

- 1) Presentational skills training and courses to teachers
- 2) Training teachers to teach drafting patterns
- 3) Assess how teachers teach
- 4) Emotional relations training for teachers in dealing with students
- 5) Teachers in their chosen field of expertise in the field of education

The Third Factor: critical and creative learning environment. Creating an environment supportive social and physical environment of stirring, the students instead of storing scientific facts with the problems encountered in real life crisis (Ibid.).

- 6) Providing an environment interesting and attractive learning environment.
- 7) Determine the proper environment and adequate learning environment.
- 8.) Providing various facilities in school
- 9) Providing new educational technologies in schools

10) Encourage teachers to force students to work in groups
11) Appropriate psychological atmosphere in the learning environment.

The Fourth Factor: The students' motivation. Motivation is the willingness to do so depend on a person's ability to realize the need to secure. Motivation can be defined in terms of actual behavior.

- 12) Efforts to strengthen cross-class study
- 13) Trying to raise self-esteem
- 14) Efforts to increase the power of decision-making in schools
- 15) Effort to bolster confidence in Don Students
- 16) Establish positive relationships with school students
- 17) Trying to learn creative and critical thinking, students
- 18) Create curiosity in students
- 19) Reward offered for New Ideas

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The Fifth Factor: Human relationships ideal learning environment. The process of establishing, maintaining and expanding bilateral relations between members of a social system targeted dynamic (school) that a rational, social and psychological needs of the individual and the group, leading to understanding, satisfaction and mutual benefit and to create contexts and facilitate growth, motivation and educational organizations to achieve goals.

- 1) Create a democratic space in the school
- 2) Good human relations in education
- 3) Involving students in academic and non-academic activities
- 4) Conducted discussions with students
- 5) Establish a system of schools offers

In response to the third research question to determine the existing and desired role of school administrators in the development of creativity and critical thinking students are said the status quo and the desired high was a huge gap there. As for teachers, school administrators subdued role in the development of creativity and critical thinking for students to play. They believe in fostering creativity and critical thinking, effective indicators of the managers was less than average, while teachers believe that the situation is favorable, managers need to the development of creativity and critical thinking more by the scientists. Grades to the role of managers in their current situation is less than desirable grades.

Training Manager must be given to the role and participation of students, staff and teachers in school administration with a spirit of flexibility, humility, thinking of, to try the first stage, confidence in the staff and the students of your.

In particular, the diversity of ideas, new thoughts and new initiatives in every field and on every agenda of every one of them would be a good subject for breeding it is tyranny. Creative director has tried without providing a model for people, it will lead to new approaches to choose. In this regard, it is important to strengthen the spirit of initiative and self-esteem among students and staff that the manager should be taken into consideration place to be able training.

Variables such as human resources, management structure and culture on the development of creativity and critical thinking of students and staff is an effective school. Variables, financial resources and commitment to the education and development of high job security, the creative individuals and interdependent variables critical management features such as flexibility, self-confidence, risk-taking, positive attitude towards staff and collaborative leadership style of or group structures and structure variables to natural resource abundance depends much communication between units. We encourage teachers to creative and critical thinking, attention to safety features and performance of students, strengthen the incentives for creative use of participatory management, innovative features enhance the management of enterprise open space for establishing an effective communication system is the most important management tasks in the development of creativity and critical thinking in the school building is.

With the growth of technology and new technology in the world, save the intellectual retardation, stunting education on the importance of planning and organizing more convenient to have. So that encouraged experimentation and the application of new techniques, open and joyful environment and relationships between staff and teachers to familiarize them with new and creative teaching methods and techniques, familiar with the behavior of the relations of students, encourage creativity and critical human resources and create new ways to manage schools including the programs that can be a dynamic and vibrant educational center and the grounds creativity and critical school of the.

The results of this study can opens the door to administrators, teachers and students will be expert to promote creativity and critical thinking. In other words, this study is important in two aspects: First, can the development of the theory of knowledge to the development of creativity and critical thinking in high school students and the director of the growth and development of educational Questions acceptable theoretically, it is important to offer. Secondly, it is hoped that understanding and ways of fostering creativity and critical thinking so students recognize that it is also important in terms of practical, effective steps taken.

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