

Theoretical and Practical Comparison of Creativity in Iranian and Japanese Teachers' Classes

Afzal Sadat Hosseini, and Azadeh Bozorgi

Abstract—The aims of this project included the theoretical and practical comparison of creativity in Iranian and Japanese teachers' classes. The research method in this project is a case study with a form of qualitative descriptive research. Interviews were on a sample of 7 Iranian teachers- 3 in junior high, 2 in high school and 2 in elementary school- and 4 Japanese teachers- 2 in high school and 2 in elementary school. Iranian and Japanese teachers in the field of creativity in a comparative way and their interaction with other phenomena in the educational systems was studied. The similarities and differences between the theoretical and practical areas on one another were also analyzed. There are great similarities between Iranian and Japanese's theoretical ideas related to creativity. This study shows that there are significant differences between the two groups from a practical dimension.

Keywords— creativity, creative teacher, creative student, education, Iran, Japan.

I. INTRODUCTION

Children as little researchers discover their own worlds. However, many of them lose their curiosity especially as soon as they go to school, since their sense of discovery is not enhanced. According to the Torrance's research (1962) children are in the high level of creativity in their early life. But being at school makes them gravitate toward conformity. They are expected to give structured and reality-based answers to questions in a specific format and finally their creativity is lost. Without a doubt, we live in a creative era of information, communication and interaction that is allowing creativity to play as a key element for personal and social development (Florida, 2002). Creativity is an indispensable skill in both thinking and learning which should be cultivated into a learner's educational process (Craft, 2000, Fisher, 2004, Prentice, 2000). The path to a knowledge-based society is based on innovative processes which in turn lead to intelligent economics (Florida and Tinagli, 2004). The importance of education in students' creativity development has proven to be of great importance, grabbing the attention of numerous researchers in this time (Craft, 2006). Educational systems, as well as other social organizations, needs to change attitudes for

Afzal Sadat Hosseini, Faculty of Psychology and Education, University of Tehran, Iran

Azadeh Bozorgi, Ph. D. student. Faculty of Psychology and Education, University of Tehran, Iran

their survival. This is possible through having a dynamic and creative education and applying creative forces in a society. If a society can benefit their members, it will develop as developed countries (Hosseini and Mahmoodi, 1387). Hence, the inclusion of creativity in the curriculum process is essential (Le Metais, 2003). We want creativity for our students and we are responsible for creating conditions to foster creativity. Most practitioners agree that we should teach creative and critical thinking ways, as well as a deep understanding to our students. Today's world wants to foster students' talents and abilities to prepare them for life (Starko, 2010). Nevertheless, it is also noted that creation is not of such skills as cooking with recipes, but the students need to be aware of the process of innovation and creativity and try to enhance creativity. Therefore, educational system plays an effective role in creating creativity (Hosseini and Mahmoodi, 1387).

II. WHAT IS CREATIVITY?

Children as little researchers discover their own worlds. However, many of them lose their curiosity especially as soon as they go to school, since their sense of discovery is not enhanced. According to the Torrance's research (1962) children are in the high level of creativity in their early life. But being at school makes them gravitate toward conformity. They are expected to give structured and reality-based answers to questions. Creativity is as a life and death of a society (Hosseini and Khalili, 1389). Innovation and creativity are emerging lifetime and all human beings are inherently possessed creative thinking abilities and performance. Although a standard definition for creativity is still not agreed upon, a common definition is found or inferred from a wide range of studies. For Guilford (1968), creativity is a collection of a learner's features and abilities. He states that creativity is a form of divergent thinking implying that thinking has varying dimensions and aspects. On the other hand, researchers like Harrington (1990), regard creativity as a social phenomenon. Hennessey and et al (1987) believe that social and environmental factors play a vital role in creativity and point out that there is a strong relationship between personal motivations and creativity. Social environment provides great parts of this willingness.

Perkins (1988) defined creativity as a result that is original and appropriate. The appropriateness is related to the cultural context in which the creativity is based. Gardner says that

individuals are creative in a particular domain-specific ways. The creative individual is a person who regularly solves problems, designs products, or defines new questions within a domain that is perceived novel but ultimately becomes accepted in that particular cultural setting (Gardner, 1993). Ryhammar and Brodin (1999) consider creativity as a process that leads to new, original and extraordinary results. Dineen, Samuel and Livesey (2005) believe that creativity requires productive and divergent thinking to guarantee novelty while at the same time demanding/craving convergent and reproductive thinking to ensure appropriateness. Moreover, Plucker and et al (2004) say that creativity is the interaction between process, viewpoints and the environment in which a person produces a product that is both novel and useful at the social level. Although the term creativity has a positive connotation, it can be used both for productive purposes and destructive purposes (Nickerson, 1999). Thus, creativity is in need of reflective and critical thinking, too. Valtanen and et al (2008) claim that the purpose of creativity should be determined and creativity should be developed based on wisdom. Craft (2003) believes that the desire to change should be explored in order to achieve swift and perpetual change-before teaching. Additionally, Valtanen and et al (2008) use multi-dimensional thinking that reinforces the idea of creative thinking along with critical and reflective thinking.

Considering the above definitions, creativity is divided into three domains: some regard personalities, some take into consideration creative procedures and others attend to creative products (Hosseini, 1388).

Creativity Development

Creativity tends to be viewed as a fixed inborn trait. Experts generally conceptualize creativity as a construct that is affected by both nature and nurturing processes. A widely held view of creativity is that we are born with a creative potential, and environmental and educational factors will influence our creativity to develop (Plucker & Runco, 1999). On the other hand, in order to meet the challenges which will enable us to respond to change and “use their knowledge and skills to make an impact on the world around them” (Seltzer and Bentley, 1999, p. 10), education systems across the world are being revisited. The increased status of creativity in education is reflected in educational policy “in almost every country in the world” (Bamford, 2006, p. 11).

Teachers' Attitude Toward Creative Students

Some visible characteristics of creative students like nonconformity, internal locus and impulsiveness, could stir up problems in the class and hence lead to a teacher's negative attitude toward students that possess these traits. It is therefore plausible to assume that some teachers are not prepared to recognize and accept creative students in their classrooms (Karwowski, 2007). Some experiments have confirmed that the selection of creative students by a teacher is correlated with their grades and not necessarily with the pupils' creative potentials measured by questionnaires and tests (Karwowski, 2009). The reason stated for the lack of correlation lies in the implicit theory of creativity. If these teachers' theories are

different from proven scientific and objective theories, it is not astonishing that they identify creative students based on their scores. This confirms the need that the teachers' implicit theories of creativity should be studied thoroughly. Such theories show the level of teachers' knowledge regarding creativity and their negative or positive attitude toward this concept.

Westby and Dawson (1995) believe that creative traits are not valued in the classroom as they should be while at the same time they are seen in a negative light. Chan and Chan (1999) stated that teachers found creative students to be curious, imaginative, impulsive and clever, but also rebellious, egocentric and nonconformist. Moreover, Ng and Smith (2004) believe that most experienced teachers preferred to have a relatively autocratic rule in their classes. The term "creativity" may have come to be used a wide variety of educational settings, but this concept is still vague in many teachers' minds. Ranco (2003) says teachers' concepts and implicit theories regarding creativity should be perceived and explored so that the teachers' functions as accelerators in flourishing creativity can be understood and enforced effectively.

Amabile (1996) noted that when all aspects that influence the development of a person's creativity are considered, many factors can be found in the classroom, with teacher characteristics and behavior being incredibly relevant. Creative teachers are energetic and knowledgeable, with a supportive, flexible, distinctive manner (Lilly & Bramwell-Rejskind, 2004). In their classrooms, students tend to be cooperative, enthusiastic, and engaged (Starko, 1995). Creative teachers help students to reconstruct their knowledge and understandings through discovery and rediscovery (Lilly & Bramwell-Rejskind, 2004). Such teachers give a way to innovative learners, encouraging students to produce and create, rather than to summarize and repeat.

Bateson (1999) maintains that everyday creativity is a critical component in education, because the ability to learn and grow throughout life relies on innovation and new construction. Creative teachers support students' creative abilities and promote comfortable environments in which students can experiment with ideas, explore possibilities and push boundaries (Hickey, 2001). Lilly & Bramwell-Rejskind, (2004) indicate that these teachers foster a positive learning climate, encourage curiosity, and model flexibility. They “view fostering their own creativity as a precursor to fostering it in their students.” (Lilly & Bramwell-Rejskind, 2004, p. 3).

Teaching Creativity Vs. Creative Teaching

There is a difference between teaching creativity and creative teaching. A teaching activity that produces an enjoyable, or even creative, outcome does not necessarily enhance creativity unless the students have the opportunity for creative thinking. In Creative teaching, the teacher exercised creativity in developing and presenting the exercise. However, creative teaching is not the same as teaching to develop creativity.

In teaching creativity, the essential creativity is on the part of the students. If the students develop a new form of activity, they have the opportunity to exercise creative thinking. Creativity also can be developed as students devise their own science experiments. When teaching is to enhance creativity, we may well be creative as teachers, but we also provide students the knowledge, skills, and surroundings necessary for their own creativity to emerge. The results may not be so ideal, but they include real problem finding, problem solving, and communication by students (Starko, 2010).

Teaching Creativity

Sternberg (1999) claimed that creativity is found in everyone, but it is most commonly obvious in young children. Yet the tendency of conventional education is to crush students' natural propensity for creative and divergent thinking. Our current system of education continues to reward conventional wisdom and convergent thought processes, yet punishes certain legitimate modes of creative thinking (Robinson, 2003). While Fasko (2001) believed that students would be most motivated toward successful learning when they are given some flexibility in creating their own tasks. He suggested that creative teaching enhances students' learning experiences and the teachers are considered as the most principal factor in developing student creativity (Renzulli, 1992). Cropley (2001) maintained that, "creativity offers classroom approaches that are interesting and thus seems to be a more efficient way of fostering learning and personal growth" (p. 28). Some teaching practices such as transmission-models, punishment, reward, competition, and evaluation, have been found to suppress students' innate creativity (Ramey & Piper, 1974). Whereas classrooms that promote self-directed learning and autonomy seem to cultivate innovative or novel thinking tendencies (Amabile, 2001).

Classroom discussions provide an ideal environment for students to develop their creative thinking skills. Indeed, teachers can support students' creative thinking by encouraging and rewarding students' novel ideas, unique perspectives, and creative connections (Sternberg and Grigorenko, 2004). Similarly, a teacher might attempt to cultivate, rather than quickly refocus, a conversation amongst students regarding an unexpected connection made between an historical event and the theme of a highly popular, futuristic video game.

Necessity of Developing Creativity

There is a difference between teaching creativity and creative teaching. A teaching activity that produces an enjoyable, or even creative, outcome does not necessarily enhance creativity unless the students have the opportunity for creative thinking. In Creative teaching, the teacher exercised creativity in developing and presenting the exercise. However, creative teaching is not the same as teaching to develop creativity.

In teaching creativity, the essential creativity is on the part of the students. If the students develop a new form of activity,

they have the opportunity to exercise creative thinking. Creativity also can be developed as students devise their own science experiments. When teaching is to enhance creativity, we may well be creative as teachers, but we also provide students the knowledge, skills, and surroundings necessary for their own creativity to emerge. The results may not be so ideal, but they include real problem finding, problem solving, and communication by students (Starko, 2010). Creativity is an essential factor in thinking and learning which cuts across all disciplines. Perhaps, the most important reason for developing creativity is challenging. Nowadays, organizations in the world face two paramount challenges: globalization and competition. The best way to overcome these challenges is by having access to novel ideas, programs and innovative methods (Behroozi, 1385). To achieve it, the educational aims of an organization should carry some messages. Every educational system is responsible for education and making creative power. (Quinn and et al, 1990). Cropley (2003) asserted that, education cannot limit itself to the transmission of contents, techniques and values, since these will soon be useless to living a full life, but must also promote flexibility, openness for the new, the ability to adapt or see new ways of doing things, and courage in the face of creativity. (p. 136). There is a need to fill in the gap in our understanding of effective uses of creativity in educational research (Plucker, Beghetto and Dow, 2004). This mounting interest in creativity in education and teaching along with the current knowledge gap on this topic means that more work in educational research is needed to consider and understand examples of how creativity plays out in successful teaching paradigms.

Research Aims

The research aims of the project included the theoretical and practical comparison of creativity in Iranian and Japanese teachers' classes. The similarities and differences between the theoretical and practical areas on one another were also analyzed. Additionally, practical strategies used in these participants' creative teachings were also taken into consideration.

The questions were issued in two theoretical and practical categories:

1. What are Iranian and Japanese teachers' attitudes toward creative teaching?
2. How successful have Iranian and Japanese teachers been in providing opportunities for creative teaching in their classrooms?

III .METHOD

The research method in this project is a case study; a form of qualitative descriptive research that probes the issue individually. The teachers were interviewed Iranian and Japanese teachers in the field of creativity in a comparative way and their interaction with other phenomena in the educational systems was studied.

IV .PARTICIPANTS

Considering that creativity and creative teachers are influential factors in any country’s educational system, the researchers decided to do a comparative study on Iranian and Japanese teachers’ attitudes toward creativity in their classrooms. The research was conducted on a sample of 7 Iranian teachers- 3 in junior high, 2 in high school and 2 in elementary school- and 4 Japanese teachers- 2 in high school and 2 in elementary school.

V. RESEARCH TOOLS

Researchers interviewed all 11 teachers and asked them to express their opinion about creativity and creative methods in their classrooms. Furthermore, the researchers observed the teachers’ classrooms and pursued their creative teaching in their classrooms.

The Data Gathering Process

The data was gathered from interviews with teachers in 20-25 minute sessions and the teachers' personal opinions which were recorded. The researchers' observations were also

recorded and used in the data gathering process. Each teacher was interviewed individually. Then the data was classified in tables and finally a comparative study was conducted.

VI. RESEARCH FINDINGS

To gather data, questions were divided into two categories: theoretical and practical. The researchers asked 5 questions related to the first research question and 2 questions related to the second question. These sub-questions are:

1. What is your idea about creativity?
2. What is the role of teachers in developing creativity? Can they accelerate it?
3. What are the characteristics of creative teachers?
4. What are the characteristics of creative students?
5. What are some of the barriers to the creative process?
6. Is creativity taken into consideration in existing educational systems?
7. How do you employ creativity in your classroom?

The teachers' responses have been summarized in the Following table:

questions	Iranian Teachers	Japanese Teachers
Your idea about creativity	<ul style="list-style-type: none"> - Finding innovative ways to solve the problems in the class - Creating contents different from routine contents - Solving problems with help from upper cognitive levels - Finding new ways to solve problems - Answer questions with analytical and critical attitudes - Creative and critical thinking regarding common problems - Creation and development in a different way 	<ul style="list-style-type: none"> - Ability to solve problem in different ways - finding solutions - Ability to think divergently and risk taking - Having innovative attitude and multi-dimensional thinking
Role of teachers in developing creativity	<ul style="list-style-type: none"> - The teacher plays a vital role, because s/he is responsible for teaching creative methods. Our students are memory-based and the teacher should overcome this obstacle. - S/he should do creative work and then ask the students to follow along and do creative work, as well. The teacher is an objective model. - The teacher's familiarity with creativity and developing creative methods is essential and cannot be ignored. But teaching creative methods does not mean that the students will be creative. - Unfortunately, our teachers are memory-oriented. Although some teachers are trying to learn and teach creativity, they are not successful. But I am hopeful, because human beings are capable of doing anything they set their minds to. - The teacher is a determining factor in the classroom. His/her encouragement or punishment in the class has a direct effect in developing creativity. - Teacher's attitude toward educational contents is a central factor in developing creativity. There are teachers who can teach classical content in annotative ways. - His/her way of thinking and interaction with the students are important. 	<ul style="list-style-type: none"> - Teachers are learning facilitators and can create a desirable and fantastic setting for the students. They should pay attention to individual differences in students. - S/he should act as a facilitator. - S/he should take risks and pay attention to individual differences and make the students feel secure. - S/he should provide innovative thinking opportunities and pay attention to the student as a whole.
Characteristics of creative teachers	<ul style="list-style-type: none"> - Active, energetic, curious and decisive - Open-minded, biased-free and student-oriented - Active, multi-dimensional thinker, updated and active readers - Deep thinkers and attentive to make an exact decision - Divergent and abstract thinkers, kind 	<ul style="list-style-type: none"> - Patient, fond, flexible and interested in students' desires - Interested in reducing authority, class controller, enthusiastic and energetic - Multi-dimensional thinker, changeable - Flexible, biased-free and multi-dimensional thinker

	<ul style="list-style-type: none"> - Decisive and flexible - Biased-free and content-mastered 	
Characteristics of creative students	<ul style="list-style-type: none"> - Self-confident and curious - Curious, critical thinker, imaginative and biased-free - Deep thinker, deep observer, risk-taker and self-confident - Conceptual thinker, critical thinker and active - Thorough problem solver - Abstract thinker and flexible - Practitioner, innovative thinker and flexible 	<ul style="list-style-type: none"> - Multi-dimensional-thinker, divergent thinker, self-reliant and flexible - Self-confident, flexible and pays attention to differences - Risk-taker, multi-dimensional thinker and flexible - Numerous question asker, flexible and curious
Barriers to creative processes	<ul style="list-style-type: none"> - Fear of failure, hopelessness and teacher-orientated classes - Fear of failure, dominant teacher and lack of self-confidence - Lack of ability to think, imitation, meaningless drill and hopelessness - time limitation, mono-directed class and unsuitable content - Unsuitable educational setting, lack of self-confidence and imitation - Lack of concentration, lack of creative thinking and fear of consequences - Lack of failure, teacher-orientation and inflexibility 	<ul style="list-style-type: none"> - Fear of using innovative way of thinking and solving problems, applying traditional curriculum - Fear of deconstruction and fear of change and interaction - Traditional teacher, lack of creativity in teacher - mono-lateral and biased thinking and teacher apathy toward creativity
Is creativity taken into consideration in existing educational systems?	<ul style="list-style-type: none"> - The traditional contents can be taught creatively (teaching creative methods to solve problems) - Encouraging creative work or uncommon is a natural phenomenon in art classes. - Developing creative learning and encouraging creativity is probable, although very limited. - Giving conceptual and critical questions based on traditional content can help develop creativity. - Teaching risk-taking and responsibilities to students gives a whole new meaning to creativity. - Considering concepts functionally can develop creativity. 	<ul style="list-style-type: none"> - It is possible to create a creative setting along with pre-programmed content. Different contents represent creativity existing in nature that human being acquired through history. Covering this is an easy process. - It is possible to teach contents in a different way. Creating a secure environment for students to take risks is possible. - Making opportunity for students to manage her/himself and making programs and teaching subjects in different ways based on the students' desires can develop creativity. - Teachers should have creative attitudes not creative teaching. Teachers can help students find solution by directing a vast majority of information in a suitable way.
How do you employ creativity in your classroom?	<ul style="list-style-type: none"> - I raise my questions, give students enough time to think purposefully, brain-storm; select the best solutions apply creative ways and then based on given way, and raise another question. - It is hard to practice what has been said, I offer a subject and my students draw. I try not to be traditional but I do not know how to apply creative methods. - I only use creative methods in composition class to make my students create some piece of literary work. Our literature class is memory-based. I offer a subject that is challenging. They offer some solutions for the problems and defend their ideas using emotion or reason. They try to think together as a team and solve their problems. - The content of the biology book is so heavy and time is so limited that we have no time to be creative. Nevertheless, students try to find solutions for problems in the biology lab. Their answers are different most of the time. They use different ways to carry out the experiment. - I can do some creative work in my class, but heavy content and limited time are my main problems, but I give some physics problem to my students and they try to solve them in unusual ways at home. Most of the time, problems are real and related to the students' natural environment. When they find the solution, they get excited. I use prizes as external motivations and enforcing their self-esteem. - I give open-ended stories to my students including imaginative or real issues. My students find numerous ways and solution. I do this in comprehension part and the rest of my class is teacher-oriented. 	<ul style="list-style-type: none"> - I consider individual differences and encourage my students to be creative. I disagree with harsh disciplines and try to provide a playful and thinking setting. I try to elaborate on the concept of creativity and show my students that it is an internal ability. They get very excited. - I discuss with my students the subjects they are most concerned with. They try to find innovative solutions to their problems. I try to provide security for my students based on the level of every classroom. I try to prepare them to think differently and take risks. - I elaborate the concept of creativity and its functions for my students. I ask them to find different and innovative ways and enjoy them. I try to teach my students creative thinking. I make them find innovative ways to deal with raised problems. I accompany them. I try to create different settings. I do some creative activities myself. I, as a model, teach them to think differently. - I give the content to my students. Then I ask numerous questions and make them think in a multi-dimensional way. I ask my students to create. For example, the first student is asked to make a sentence and gives it to another student. The second student is then asked to add a sentence to the first one and hand it over to the third student. This process continues and eventually the students make a text, full of novel ideas. Another thing that I do is raise a question and ask my students propose different solutions. Then the best responses are chosen and applied. This way, the students find out that there is not just one solution to a problem.

<p>- My students use taught grammar and vocabulary functionally, make written work, write plays, write letters and even write some Arabic poems. I classified my class into groups. They form small societies and every member is responsible for her/his part and solves a problem. I have received many prizes for my novel and creative classes.</p>	
---	--

VII. DATA ANALYSIS

Regarding the first question, the data presented in the table indicates that both Iranian and Japanese teachers regard creativity as having a different attitude and finding various solutions along with the ability to think divergently and creatively. Both groups are familiar with theoretical basis and make a distinction between one-dimensional and multi-dimensional thinking. Considering the second question, both groups believe that the teacher is the one responsible for flourishing creativity in the classroom. The teacher as a model can provide situations where a sense of security is transmitted to the students. Moreover, all the participants believe the teacher to play the role of creativity-maker in the classroom either explicitly or implicitly. On the other hand, based on the teachers' belief, the instructor is an influential factor in flourishing creativity in the classroom. In the Iranian classroom, the instructor is the most important element in the process of teaching while in Japan the teacher plays the role of an accelerator. In response to the third question, both groups claim that curiosity, flexibility, a biased-free attitude, authority-avoidance and divergent thinking are the main characteristics of a creative teacher. What distinguishes Iranian and Japanese teachers is that the Japanese instructor believes that lessening the authority of the teacher facilitates creativity in the classroom, while Iranian instructors view creativity along with the teacher's authority in the classroom.

Both groups believe that flexibility, curiosity, divergent and purposeful thinking are characteristics of creative students. Both groups say that educational settings influence the learning process. Teacher-oriented classes and harsh disciplines are two of the obstacles that threaten a creative learning environment. This, along with a fear of failure, is some of the factors influencing creativity. Additionally, an over-load of contents, time limitation and different books, distract students and influence creativity negatively. In relation to the sixth question, both groups say that although traditional contents decrease the pace of flourishing creativity, they do not stop creativity altogether. They claim that teachers can develop creativity even if they are forced to work in a traditional setting along with a pre-planned curriculum. However, one significant difference between the two groups is that Iranian teachers believe in the instructor's authority in the classroom while Japanese teachers believe that student-oriented classes are absolutely central in the creativity process.

With regards to applying creative methods in the teaching process, instructors have different ideas that demonstrate their attitude toward creativity. The first Iranian teacher interviewed for this study uses brain-storming which is one of the most

effective methods used in a creative setting. She uses her students' answers to raise new questions. This instructor's teaching method is not entirely based on pre-planned curriculum and her class is by no means out of control. She directs her students' thoughts and guides them through the teaching process and in doing so motivates her students. The second Iranian teacher tries to be creative, but due to her lack of knowledge and experience in applying creative methods, she fails to act effectively. The third Iranian teacher cannot use creative methods freely because of the load of the content and the fact that students are expected to memorize most of the material at hand. Still, this teacher claims to be interested in employing creativity in the teaching and learning process. The fourth Iranian teacher also has similar problems but she tries to use creative methods in laboratory settings where the students are allowed to act freely. Although the fifth Iranian teacher has the same problem, she asks her students to apply their creative potentiality and encourages them by handing out prizes. She believes that this way is in line with the existing educational system, and claims that this co-directedness will prove to be effective for students. The sixth Iranian teacher uses creative methods in a much more limited sense than the other teachers. For this instructor, most of the class is spent in a teacher-oriented climate. The seventh Iranian teacher has used creative methods before and believes that she can teach traditional content in an innovative way. So she teaches creatively with the aim of letting the creative side of her students flourish.

The first Japanese teacher's opinion is that individual differences are the most important and effective factors in developing creativity. In her opinion, harsh discipline interferes with creativity. She also focuses on encouragement as a strong factor in flourishing creativity. He believes that she should act in depth, so she elaborates on the concept of creativity for students and explains its effectiveness. This process is indicative of this teacher's awareness of creativity. The second teacher discusses different topics with the students and encourages them to be creative, but she uses traditional methods. He teacher believes that self-confidence and sense of security are key factors in creativity and tries to motivate her students. The third teacher elaborates the concept of creativity and reminds her students of the enjoyment brought on by creativity. However, she fails to apply creative methods effectively. He teacher also believes in applying creativity in the classroom and says the concept of creativity should be explained to the students. She tries to be creative functionally and believes in teacher's modeling. The fourth teacher says that asking question can lead to the development of creativity. Furthermore, she says that creativity starts within students and the teachers are only facilitators. He is a true professional when it comes to employing creative methods, which in turn

leads to a class where creative and critical thinking is at the heart of everything.

Looking closely at what goes on inside Iranian and Japanese classes and exploring different teachers' opinions about creativity, makes it possible to understand different notions of creativity. At first it seems that both groups are familiar with creativity in a similar fashion, but observations and interview analysis show that both groups are merely familiar with the basis of creativity. However, each group gives has their own spin on what creativity means for them. By focusing on the teacher's authority in the classroom, Iranian teachers believe in the creativity process and emphasize on its effectiveness. On the other hand, Japanese teachers say that teachers should reduce their authority and call attention to the fact that teachers are only facilitators of the learning process. These teachers also stress on students' active participation in class activity which they believe will ultimately be turn into a starting point of creativity.

Although there are similar theoretical expressions between the two groups in this study, objective differences can also be found between them. Class environment and decoration, the kind of assignment handed out to the students, content, teaching methods and the relationship between teachers and students show the creativity process in the Japanese educational system (although there are different levels). On the other hand, what can be seen in the Iranian educational system shows a much slower pace of creativity in the classroom.

In fact, seven of the raised questions in oral interviews and researchers' observation in Iran and Japan are used to answer two of the research questions. The first five questions elaborate the theoretical basis of research and answer the first research question. There are great similarities between Iranian and Japanese's theoretical ideas related to creativity. The second two questions and class observation answer the second research question and show the practical aspect of creativity. This study shows that there are significant differences between the two groups from a practical dimension.

VIII. CONCLUSION

An educational system should consider creativity as an internal feature that exists in every student. The first step is educating professional teachers to apply creative teaching methods in order to train students to use creative ways in the class. Regarding the deep-rooted traditional educational system in Iran, transferring from more traditional systems to innovative ones which encompasses novelty, originality, imagination, risk-taking, applying meta-cognitive thinking and student-orientation is more difficult that meets the eye. However, it seems necessary that teachers and curriculum designers should take appropriate steps toward applying creativity in their educational system. This may prove to be a challenge, considering that changing deep-rooted habits are demanding to say the least. Bearing in mind the differences between Iranian and Japanese learning environments and developing an effective setting where creativity can find its

rightful place in the educational system, is everything this research can hope to do.

REFERENCES

- [1] Amabile, T. M. (2001). Beyond talent: John Irving and the passionate craft of creativity. *American Psychologist*, 56(4), 333–336. <https://doi.org/10.1037/0003-066X.56.4.333>
- [2] Amabile, T.M. (1996). *Creativity in Context*. Boulder, Colo: WestviewPress.
- [3] Bamford, A. (2006). *The Wow Factor: Global research compendium on the impact of arts in education*. Berlin, Waxmann Verlag.
- [4] Bateson, M.C. (1999). Ordinary creativity. In A. Montuori & R. E. Purser (Eds.), *Social creativity: Volume I*. Cresskill, NJ: Hampton Press.
- [5] Behrouzi, Nasr (1385). Necessity of developing creativity in higher educational system. *Engineering teaching in Iran*, 29, 42-45.
- [6] Craft, A. (2006). Fostering creativity with wisdom. *Cambridge Journal of Education*, 36 (3), 337–350. <https://doi.org/10.1080/03057640600865835>
- [7] Chan, D. W., Chan, L. (1999). Implicit theories of creativity: teachers' perception of students' characteristics in Hong-Kong. *Creativity Research Journal*, 12, 185-195. https://doi.org/10.1207/s15326934crj1203_3
- [8] Craft, A. (2003). The limits to creativity in education: Dilemmas for the educator. *British Journal of Educational Studies*, 51(2), 113–127. <https://doi.org/10.1111/1467-8527.t01-1-00229>
- [9] Craft, A. (2000). *Creativity across the primary curriculum: Framing and developing practice*. London: Routledge.
- [10] Crompton, A.J (2003). *Creativity in education & Learning*. Bodmin, Cornwall: Routledge Falmer.
- [11] Crompton, A.J. 2001. *Creativity in Education and Learning: A Guide for Teachers and Educators*. London: Kegan Page.
- [12] Dineen, R., Samuel, E., & Livesey, K. (2005). The promotion of creativity in learners: Theory and practice. *Art, Design & Communication in Higher Education*, 4 (3), 97-113. <https://doi.org/10.1386/adch.4.3.155/1>
- [13] Fasko, D. J. (2000-2001). Education and creativity. *Creativity Research Journal*, 13 (3 & 4), 317-327.
- [14] Fisher, R. (2004). *Creativity across the Curriculum*. In *Unlocking creativity: Teaching across the curriculum*. London: David Fulton Publishers.
- [15] Florida, R. L. (2002). *The rise of the Creative Class: And how it's Transforming Work, Leisure Community and Everyday Life*. New York, NY: Basic Books.
- [16] Florida, R. L., & Tinagli, I. (2004). *Europe in the creative age*. London: DEMOS.
- [17] Gardner, H. (1993). *Creating minds: An Anatomy of Creativity Seen through the Lives of Freud, Einstein, Picasso, Stravinsky, Eliot, Graham and Gandhi*. New York: Basic Books.
- [18] Guilford J.p (1968). *Intelligence, Creativity and their Educational Implications*. Sanpiero: Robert Rknopp.
- [19] Harrington, D. M. (1990). *The Ecology of Human Creativity: A psychological perspective*. London: Sage Publications.
- [20] Hennessey, Beth A., and T. M. Amabile (1987). *Creativity and Learning*. Washington, D.C.: National Education Association.
- [21] Hickey, M. (2001). Creativity in the music classroom. *Music Educators Journal*, July, 17-18. <https://doi.org/10.2307/3399771>
- [22] Hosseini, Afzal Sadat and Khalili, Samaneh (1389). Elaboration of creativity in Post- modernist education. *Alzahra University Quarterly Journal of New Thoughts on Education*, 32(9), 4- 16.
- [23] Hosseini, Afzal Sadat (1388). *Creative learning, creative teaching (scientific ways in developing creativity)*. Tehran, Madreseh.
- [24] Hosseini, Afzal Sadat and Mahmoodi, Noor Aldin (1387). Dynamics and creativity in global era. *Social science Roshd*, 40, 6- 11.
- [25] Karwowski, M. (2007). Teachers' nominations of students' creativity: Should we believe them? Are the nominations valid? *The Social Sciences*, 2, 264-269.
- [26] Karwowski, M. (2009). Are creative students really welcome in the classrooms? Implicit theories of "good" and "creative" student' personality among polish teachers. *Academy of Special Education*, 40, 342-353.

- [27] Le Metais, J. (2003). International trends in curriculum frameworks. *Educational Forum*. 67 (3). 235–247.
<https://doi.org/10.1080/00131720309335037>
- [28] Lilly, F.R., Bramwell-Rejskind, G. (2004). The dynamics of creative teaching. *The Journal of Creative Behavior*, 38(2), 102-124.
<https://doi.org/10.1002/j.2162-6057.2004.tb01235.x>
- [29] Ng, A. K., Smith, I. (2004). The paradox of promoting creativity in the Asian classroom: an empirical investigation. *Genetic, Social, and General Psychology Monographs*. 130. 307-330.
<https://doi.org/10.3200/MONO.130.4.307-332>
- [30] Nickerson, R. (1999). Enhancing creativity. In R. J. Sternberg (Ed.), *Handbook of creativity*. New York: Cambridge University Press.
- [31] Perkins, D. N. (1988). Creativity and the Quest for Mechanism. In R. J. Sternberg & E. E. Smith (Eds.). *The psychology of human thought* (pp. 309–336). New York: Cambridge University Press.
- [32] Plucker, J. A., Beghetto, R. A., & Dow, G. T. (2004). Why isn't creativity more important to educational psychologists? *Educational Psychologist*. 39 (2), 83–96.
https://doi.org/10.1207/s15326985ep3902_1
- [33] Plucker, J. A., & Runco, M. A. (1999). The death of creativity measurement has been greatly exaggerated: Current issues, recent advances, and future directions in creativity assessment. *Roeper Review*. 21, 36–39.
<https://doi.org/10.1080/02783199809553924>
- [34] Prentice, R. (2000). Creativity: a reaffirmation of its place in early childhood education. *The Curriculum Journal*. 11(2) 145–58.
<https://doi.org/10.1080/09585170050045173>
- [35] Quinn R, Faerman, Thompson & McGrath (1990). *Becoming a master manager*. N, Y: John Wiley & sons.
- [36] Ramey, C.T., & Piper, V. (1974). Creativity in open and traditional classrooms. *Child Development*. 45. 557-560.
<https://doi.org/10.2307/1127989>
- [37] Renzulli, J. (1992). A general theory for the development of creative productivity through the pursuit of ideal acts of learning. *Gifted Child Quarterly*. 36. 170-182.
<https://doi.org/10.1177/001698629203600402>
- [38] Robinson, K. (2003). Mind the gap: The creative conundrum. *Critical Quarterly*, 43(1). 41-45.
<https://doi.org/10.1111/1467-8705.00335>
- [39] Runco, M. A. (2003). Education for creative potential. *Scandinavian Journal of Educational Research*. 47 (3). 317–324.
<https://doi.org/10.1080/00313830308598>
- [40] Ryhammar, L., & Brolin, C. (1999). Creativity research: Historical considerations and main lines of development. *Scandinavian Journal of Educational Research*. 43 (3). 259–273.
<https://doi.org/10.1080/0031383990430303>
- [41] Kimberly Seltzer, K and Bentley, T (1999). *The Creative Age: Knowledge and Skills for the New Economy*. London: Demos.
- [42] Starko, A. J. (2010). *Creativity in the Classroom, Schools of Curious Delight*. Forth Edition. Routledge.
- [43] Starko, A. J. (1995). Problem finding in elementary students: Continuing explorations. Paper presented at the Henry B. and Jocelyn Wallace National Research Symposium on Talent Development, Iowa City, IA.
- [44] Sternberg, R. J., & Grigorenko, E. L. (2004). Successful intelligence in the classroom. *Theory into Practice*. 43. 274–280.
https://doi.org/10.1207/s15430421tip4304_5
- [45] Sternberg, R.J. & Lubart, T.I. (1999). Investing in creativity. *Psychological Inquiry*. 4(3). 229-232.
https://doi.org/10.1207/s15327965pli0403_16
- [46] Torrance, E. P. (1962). *Guiding Creative Talent*. Englewood Cliff s, NJ: Prentice-Hall.
<https://doi.org/10.1037/13134-000>
- [47] Valtanen, J., Berki, E., Kampylis, P., & Theodorakopoulou, M. (2008). Manifold thinking and distributed problem-based learning: Is there potential for ICT support? In *Proceedings of the IADIS international conference e-learning 2008 Amsterdam, Netherlands*.
- [48] Westby, E. L., & Dawson, V. L. (1995). Creativity: Asset of burden in the classroom? *Creativity Research Journal*. 8 (1). 1–11.
https://doi.org/10.1207/s15326934crj0801_1