Studying the Effect of Teaching Creativity to the Teachers on the Creativity of Second Grade Elementary Students in Dezfool in 2013-2014

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ABSTRACT

The aim of this study is to search for the effect of teaching creativity to the students on the growth of creativity on young children. The Methodology was experimental, implemented by using Torrance pictural creativity B form. The experiment groups included the students whose teachers taught by a 24 hours course by Sama organization, and control group were those whose teachers did not taught at all. The research data showed significant difference at the level of %99 of significant in all theses by using two groups' independent test and studying and comparing means. It means with the %99 level of significant the range of growing creativity in the students taught by the taught teachers was statistically just more than the students whose teachers were not taught at all, and this difference is significant.

INTRODUCTION

We are living in the world changing with high speed. In this world creative thinking is a key that makes facing problems and succeeding them possible. In solving problems creatively, any human makes the brain work actively [13]. Since last decades “creativity” has become one of the most important factors that most human scientists focus on it. In the third decade, Valas [18] processed the creativity thinking with processing attitude; Gilford was the first person in fifth decade studied especially human structure, Intelligence with a new view and developed scientific attitude toward creativity. Torrance in the 60th decade then collected and presented his famous tests [10]. There is a question here, was it possible to have a developed world without creativity or innovation? Undoubtedly, modern developments in human life were gone by creativity and innovation [5]. As educational systems are one of basic factors training creative and innovative people, people in this way have opportunity to think and decide for their future, live innovatively and be responsible at their works [18].

Review of Literature:

Now, at the beginning of the third thousandth, we can darely say that creativity is the exact thing makes difference between modern and foremost life of human. Creativity has complicated meanings and views, every emphasized on one aspect of it. Some of these meanings are:

- Creativity is a designed activity and its result is new and valuable things [14],
- Castlo [2] said about creativity process: "creativity process appears in the frame of ideas, thougths, pictures, colors, shapes, words, dreams, emotions and feelings in unaware mind.” [2].
- Creativity is the ability of creating ideas or things that are new, wonderful and valuable [4].

Creativity has 3 dimensions: uncognitive, cognitive and motivational. Uncognitive dimensions include creative factors in motional, artificial and certain abilities that never seen in the others. Cognitive aspects include divergent thinking in the man.

The creative person can produce more ideas with more flexible mind. The motivational dimensions refer to internal motive of person leading him to go on the work without any reward. Cognitive view is basically according to the divergent thinking, and does not have a certain answer for questions while in convergent
thinking; there is a certain answer for any question [20]. Creative persons have special factors helping to know them; some are as followed:
1. Trial to remove obstacles
2. Bearing ambiguity
3. Responsibility
4. Positive self- vision
5. Delaying judgment
6. Concentrating on the goals instead of reward
7. Seeing the problems in the new ways
8. Going beyond the usual thinking barriers [15].

The research done the teaching creativity resulted that it can be taught and trained. Developing creativity in educational system is important since, as we know, it is first seen usually in most children but its changing curve decreases at 10 years and this is because of the lack of learning interests and increasing emotional and behavioral problems. As Torrance says, most of these disabilities refer to the unsuitable educational ways [10]. Creativity needs time to develop experiments [11], and as some psychologists say, creativity is an important part of identified goals in literacy and technology standards [19]. Toffler believes that human civilization had 3 waves ever since. The first wave refers to farming age lasted thousands years. The second brought into existence as industrial revolution in 17th century. But in the second half of the 20th century we reached to the super-industrial age, the third wave with the most creative innovations. In the first wave, man has limited thinking depended on the earth. But at the second, by developing motion and communication, rationality also expanded.

Technological progress was leaded to the other civilization called third wave. Third wave data was information and imagination, and creativity is one of the natural results of it. The first wave countries can be at the third place without passing the second wave or conniving cultural problems. If the people help, these countries can be developed economically, culturally and socially. So creativity especially in these countries is a serious factor of being alive or existing [7] As Dodson says: "I really believe teaching is one of the most important jobs in the world [3]. In this way: "the role of instructor in children training life is one of the most important elements of a suitable plan.

Getting significant creativity in educational system is very difficult [17]. Teaching teachers and good and suitable planning as an important element in educational system has a key role in training creativity. The attitude of teachers toward creativity and teaching ways has a direct relation with strengthening the class and growing creativity of students. So, to help teachers, some plans should be done teaching creativity [8]. School is a social alive system that can breathe, feed and grow, move and generate. Breathing means getting Oxygen from the environment and the school exactly does this. It gets new thoughts from the environment, sees new environment needs and feels them. Facing new problems, it removes unsuitable thoughts and attitudes of education [12]. Different researches done by the scientists showed that creativity can be taught and trained:

- A research was done by Eredgan et al [6] with the title of "comparing two ways of teaching. Vanhile and classic, in increasing the level of students creativity " on 55 children who were 6 years old in Ankara schools using Torrance tests of creativity thinking and the results showed a significant different influencing and originality items in control and experimental group.
- The research conducted by Ibrakovid & Bognar [9] with the title of "creativity in education on the students of two high schools in Russia" including two aims:
  1. Encouraging students use creative technics in class for divergent thinking.
  2. Increasing the student's satisfaction by making it possible to take part in planned activities showed that using techniques is not enough. There are other factors like the period of teaching, the way of teaching, students' past experiments in creative activities and teachers' creative attitudes on training the creativity of students are effective.
- Yamamoto [1] searched for the relation between creativity and IQ with educational success and the teacher was variable. It showed that while teaching mathematics to the elementary students, if the teacher is not creative, the uncreative students are just more successful than creative students. But if the teacher is creative, the creative students have best results but uncreative students have not. So the result is while the teacher is not creative or less creative, the uncreative students have better results in math [1]. Torrance also studied on the teachers' effect on the students' and creativity not considering educational success. Torrance took a creativity test at the first day of January in 20 classes and repeated that test in May. The difference in test results showed the assessment of students' creativity. The teachers were divided into two groups. First group were those with positive attitude toward the creativity and the second were teachers with negative attitude. So the results were as followed:

<table>
<thead>
<tr>
<th></th>
<th>Elementary course 2</th>
<th>Elementary course 1</th>
<th>Elementary course average</th>
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<tbody>
<tr>
<td></td>
<td>7/2</td>
<td>7/6</td>
<td>7/9</td>
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<tr>
<td></td>
<td>-4/2</td>
<td>21/2</td>
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</tbody>
</table>

Table 1: Torrance results' test in positive and negative teachers' attitude.
It means that creative teachers train creative students [1].
- Hosseini’s research in 1381 was a plan for teaching creativity to the teachers. They were taught 70 hours, and then implemented the ways really in their classrooms. The result showed that teaching creativity model increases creative teaching skills according to TTCT elements (fluency, originality, flexibility and elaboration) in the teachers [7].
- Saeedi [16] in a research with the title “ studying the relation between teachers’ creativity with students’ creativity in grades 4 & 5 of elementary schools in the 11th state of Tehran ” showed that the students taught by a creative teacher were more creative in fluency, originality, flexibility and elaboration elements than those with an uncreative teacher.

MATERIALS AND METHODS

This research was an experimental project using two groups of control and experimental ones, taking pre-test, implementing dependent variable on experimental group, taking post-test after implementing independent variable and studying the changes comparing with control group whose teachers were not taught at all. Statistical population were all second Grade Elementary schools in Dezfool chosen by stage cluster sampling on 180 students according to their taught and untaught teachers (90 students in experimental group and 90 in control group) from 12 elementary schools in the centers of northern, Razavi and southern Khorasan (Bognurd, Mashhad, Birgand) who were studying in 2013-2014. The samples were chosen accidentally, 60 students in every city from 4 schools and one class in every school, any class including 15 students. The pre-test were taken on them.

RESULTS AND DISCUSSION

The main research hypothesis:
Teaching creativity to the teachers has positive effect on second grade elementary students’ creativity.

Table 2: Descriptive statistics of creativity in 2 groups.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>N</th>
<th>SD</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>students of taught teachers</td>
<td>90</td>
<td>27/37</td>
<td>58/74</td>
</tr>
<tr>
<td>students of untaught teachers</td>
<td>90</td>
<td>28/4</td>
<td>22/31</td>
</tr>
</tbody>
</table>

To get creative mark, the difference between pre- test and post- test was used. The average of creative mark in the students taught by creative teachers was (58/74) with standard deviation (27/37). The mean of creative mark in the other group was (22/31) with standard deviation (28/4).

Table 3: The results of independent t test.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>M</th>
<th>D.M</th>
<th>t</th>
<th>S.L.</th>
<th>D.F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>students of taught teachers</td>
<td>58/74</td>
<td>36/43</td>
<td>6/25</td>
<td>0/000</td>
<td>178</td>
</tr>
<tr>
<td>students of untaught teachers</td>
<td>22/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

To study the difference between them T– test for independent groups was used and the result is in table 2. According to table 3, observed-t is (6/25). Critical-t with (178) DF at the level of (p< 0/01) significant is (2/32). As observed-t is more than critical-t, null hypothesis (HO) is rejected. So in this research with (%99) significant level can be said that creativity growth in students with teacher who were taught creativity is more than the others.

Research Subordinate hypothesis:
First hypothesis: the rank of creativity growth (originality item) in the students with a taught teacher (taught creativity) is more than students whose teacher is not taught.

Table 4: Descriptive statistics of creativity in 2 groups.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>N</th>
<th>SD</th>
<th>M</th>
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</thead>
<tbody>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>students of taught teachers</td>
<td>90</td>
<td>15/59</td>
<td>11/02</td>
</tr>
<tr>
<td>students of untaught teachers</td>
<td>90</td>
<td>8/94</td>
<td>1/84</td>
</tr>
</tbody>
</table>

Table 4 shows creativity mean (originality item) in students with creativity taught teacher was (11/02) as for the others was (1/84). The variation of marks according to standard deviation in the first group was (15/59) and in the second (8/94).
According to table 5, observed-\( t \) is (6/78). Critical-\( t \) with (178) \( DF \) at the significant level of (\( p < 0.01 \)) is (2/32). As observed-\( t \) is more than critical-\( t \), HO is rejected, so in this research with (%99) level of significant we can say that growth creativity (originality item) in creative taught students is significantly more than the others.

**The second hypothesis:**

The creativity growth (flexibility item) in creativity taught teachers’ students is more than untaught teachers’ students.

According to table 6 creativity mean (flexibility item) in the creativity taught teachers’ students are (4/38). The untaught ones are (0/17). The variation of standard deviation in the first group is (5/78) and in the second ones is (3/41). Table7 shows the results.

As this table shows, \( Ot \) is (5/94) and \( Ct \) with (178) \( DF \) a the significant level of (\( p < 0.01 \)) is (2/32). Since \( OT \) is more than \( Ct \), HO hypothesis is rejected and with (%99) significant we can say in creativity growth (flexibility item) in the first group significantly more than the second ones.

**The third hypothesis:**

The creativity growth (fluency item) with creativity taught teachers’ students is more than untaught creativity teachers’ ones.

According to table 8, creativity mean (fluency item) in the first group was (5/33) and in the second ones (0/34). The variation of standard deviation in the first group is (6/32) and in the second ones (2/86).

As seen in table 9, \( OT \) is (6/82). \( Ct \) with (178) \( DF \) a significant level of (\( p < 0.01 \)) is (2/32). Since \( t \) is more than \( Ct \), HO is rejected and with (%99) level of significant we can say that creativity growth rank in the students with creativity taught teachers is more significantly of others.

**The fourth hypothesis:**

Creativity growth (elaboration item) in the students with a creativity taught teacher is more than those with an untaught teacher.

According to table 10, the mean of creativity (elaboration item) in the students with a creativity taught teacher was (38) and in the others was (23/63). The rank of variation of standard deviation in the first group was (277/3) and in the second was (237/4). The next table shows this.
Table 10: Descriptive statistics of creativity in 2 groups.

<table>
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<tr>
<th>Statistics</th>
<th>N</th>
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<tbody>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>students of taught teachers</td>
<td>90</td>
<td>27/73</td>
<td>38</td>
</tr>
<tr>
<td>students of untaught teachers</td>
<td>90</td>
<td>23/74</td>
<td>23/63</td>
</tr>
</tbody>
</table>

Table 11: The results of independent t test.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>M</th>
<th>D.M</th>
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</thead>
<tbody>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>students of taught teachers</td>
<td>38</td>
<td>14/37</td>
<td>3/73</td>
<td>0/000</td>
<td>178</td>
</tr>
<tr>
<td>students of untaught teachers</td>
<td>23/63</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

According to table 11, OT is (3/73). Ct with DF (178) at (p< 0/01) significant level is (2/3). As t is more than Ct, Ho is rejected, means that in this research the creativity growth in the students with creativity taught teachers is significantly more than the students with an untaught teacher.

Conclusion:

The results of this research is the same as with the researches of Bruenger, Walling, R. Elias et al, Akaya & Akaya and Ardegon, bogner & Ibrakovid, Chin Thai, Silaj, Belferd, AI & K.Silva, Yamamoto, Pardo, Paul Torrance et al & Suffer, Torrance, Ali Saeedi and Abbas Moradi nejad. There is a significant difference between the creativity mark (fluency, originality, flexibility and elaboration) of the students with teachers taught creativity and the students with the teachers not being taught creativity. According to the descriptive table 2 and comparing the means of experimental and control group in creativity, a remarkable difference is shown. The results of test in table 3 also show a significant difference between two groups. So we can dare say that there is a significant difference in creativity of two groups. According to the descriptive table 4, comparing the mean of experimental and control groups in originality item shows a remarkable difference. The results of test in 5 tables show the mean difference significantly. So we can conclude there is a significant difference between the marks of first group with the second. To analyze this result, we can say as originality means unusual thoughts far of the mind, any person being far from habitual daily works, have more originality in his/ her ideas. As Elinikof in ”Mega- creativity” says, the best example of testing originality is to give a piece of paper to some men and ask them to put a point wherever they want. Most of them may put the point every where but the creative person put it at the back of the paper. It is a habit for us to think and solve our problem in usual ways that was seen while testing students whose teachers were not taught creativity. As a way, if we make the student to think about some answers for a question instead of one and while facing a usual situation ask ”why” they can create new ideas.

According to the 6 descriptive tables, comparing the mean between two groups of experimental and control in flexibility shows a remarkable difference. The results of T- test in table 7 also show a significant difference between two groups mean. So we can say there is a significant difference between the flexibility marks of two groups. But we can say that flexibility is related to the number of mind domains. So if, for example, we ask a child about the utility of a thing, the creative child indicates more and expanded domains. This is testable by the circles in Torrance Tests. Answering circle questions, most children pointed to the bodies’ organs of their families’ frame or the fruits which are round, but creative children pointed to the wide and expanded domains like a car with its equipments, different animals, any type of dishes and the play means in parks and this means the teachers teaching ways including environmental motivational variety and making children familiar with them by going out in parks and environment can add children's ideas in number. As shown in descriptive table 8, comparing two groups of experimental and control means in fluency item shows a remarkable difference. T- Test results in table 9 points to the difference between two groups mean. So we can conclude the fluency marks of first group have significant difference. Fluency is related to the numbers and quantity of answers, and its natural as the number of words and the amount of learning in children be more, and wild watching motivations, children touch and test them, they act successfully. So we expect teachers considering the characteristics of this grade, they use activities in the classes while teaching which include play, happiness, motion, doing puzzles and saying incomplete stories to expand their understandings and making them take part in learning activities to learn deeply.

As shown in table 10, comparing control and experimental group's means shows a remarkable difference. T- test results also in table 11 shows a significant difference between two groups means. So we conclude that there is a significant difference between the marks of creativity taught teachers with the untaught ones. To explain the fourth hypothesis, it can be said elaboration is based on useful things that are apparent. When paying attention to the details is more, the accuracy and attention is more. So we suggests the teachers use active teaching ways, problem- solving way, answer- question way and group discussion using drawing art , not mimic ally or modeling but attractive and variable to make the children think deeply about the details to increase their creativity. At last, the research fortunately led to desired results. By proving all main and minor hypothesizes it can be said the creativity growth in the students with the taught teachers is a (%99 ) of significant level more
than the untaught teachers and the difference between two groups is significant and the results can be generalized to all second grade elementary students in Khorasan.

**Suggestions:**
1) Teaching creativity (including originality, flexibility, fluency, elaboration) to the teachers commonly. 2) Teaching creativity techniques like Sborn brain training, Gordon model, Dobono thinking lessons, and active teaching ways to the teachers to train their creativity in originality, fluency, flexibility and elaboration and practicing these techniques repeatedly. 3) Inserting creativity techniques in the lessons texts and teaching ways by educational planners. 4) Considering a special mark for teachers' activities in the creativity concepts in evaluation teachers' forms and as a norm for choosing the best teacher. 5) Holding educational meetings to expand the culture of creativity nationally and locally. 6) Holding meetings by creativity experts and teachers to develop creativity attitude and giving comprehensive strategies. 7) Teaching teachers by different courses to recognize creative students in their classes, to know how to behave with these students and how to remove the factors preventing creativity of students.

**REFERENCES**


