

An Investigation into the Relationship between Teachers' Creativity and Students' Academic Achievement: A Case Study of Iran EFL Context

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Abstract. The present study is an investigation into the relationship between Iranian EFL teachers' degree of creativity and language learners' academic achievement. To this end, six female English teachers and 81 male and female advanced English learners from a private language institute were asked to take part in the study. Data were collected through Torrance Test of Creative Thinking (TTCT) and students' final exam scores were indicators of their academic achievement. Results indicated that teachers' creativity level and students' academic achievement are interrelated. Pedagogical implications include language teachers' need to be more creative in their teaching in order to increase their students' academic achievement.

Keywords: Creativity, teachers, students, achievement, EFL context.

1. Introduction

In modern classrooms, teaching methodologies have become increasingly routine and objective in the transfer of knowledge. Teachers seem to have become the transmitters of knowledge only, without letting students experience the process through which they can make discoveries

and be creative. Teaching has turned into a process of conveying knowledge to students without encouraging them to have a role in the creation of knowledge. In such a situation, teachers' creativity plays a significant role.

The importance of creativity has been widely recognized by teachers, researchers, and educators. However, the question that comes to mind is what exactly creativity is. Briefly, creativity is the production of novel and appropriate ideas or works. It is a prerequisite for invention, innovation, and discovery (Amabile, 1996; Sternberg, 1999).

Creative teaching refers to the application of original teaching techniques to the systematic seeking of resources and the expression of creativity in teaching settings (Wu, 2003; Lin, 2002). It employs flexible and appropriate techniques so that classes become fun and interesting. Its ultimate purpose is to encourage students to develop their creative skills. In creative teaching, teachers are the inspirers, navigators, and sharers of knowledge. Based on creative science and creative psychology, creative teaching is an open and inspiring approach for encouraging students to explore and innovate in order to develop their ability to create and think (Chen, Tsai, Shih, Tseng, & Shih, 2012). To Copley (2001), creative teaching is a complex skill that cannot be acquired in a short period of time. There are three steps to teaching creatively as indicated by Copley:

Step 1: Understand the nature of creativity.

Step 2: Practice your own creativity.

Step 3: Use teaching strategies that nurture creativity in your students.

Creative teaching allows a teacher to realize his full potential as a teacher, but only if he has mastered that subject area himself. They need to acquire the skills and attitudes required to think deeply about a certain problem and make wise smart choices. They need to think flexibly and imaginatively. They need to be creative (Belkaddas, 2010).

Teaching for creativity is not a demanding task. According to Smith (2000), 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. However, it is worth noting that creative teaching is not the same as teaching to develop creativity. In

some cases, the illustrations are attractive and the activities are unusual, but the input from students is fairly routine.

In the case of teaching creatively, implementing creative approaches to develop lesson plans and engaging students with the material can lead to better learning on the part of students (Tan, 2007). Such being the case, the present study endeavors to figure out if Iranian EFL teachers' creativity is related to students' achievement.

2. Literature Review

Schacter, Thum and Zikfin (2006) studied the relationship between creative teaching and elementary students' achievement gains. Forty-eight upper elementary school teachers' classroom instruction was observed and evaluated over the course of 8 different lessons throughout the year. During each lesson, the researchers derived a creative teaching frequency score and a quality score for each teacher. The scores were then used as predictor variables in a structural equation model to determine the magnitude of the relationship between creative teaching and classroom achievement gains in reading, language, and mathematics. The results showed that (a) the majority of teachers did not implement any teaching strategies that foster student creativity; (b) teachers who elicited student creativity turned out students that made substantial achievement gains; and (c) classrooms with high proportions of minority and low-performing students received significantly less creative teaching.

Davidovich and Milgram (2006) investigated creative thinking as a predictor of teacher effectiveness in 58 college-level instructors. The correlation between creative thinking and teacher effectiveness defined as real-life problem-solving was $r = .64, p < .0001$. The absence of a relation between creative thinking and student evaluations was attributed to the fact that student evaluations did not include their opinion of their teachers' creativity. Their findings suggested the potential benefit in sponsoring pre-service and in-service workshops to enhance teachers' creative thinking ability and including creativity in the evaluations of faculty.

Hosseinee (2008) investigated the impact of the creativity teaching program on teachers' knowledge, attitude, and skills. A total number of

120 instructors (60 instructors in a test group and 60 instructors in a control group) participated in the study. The test group became involved in *teaching of creativity* program. Then, the impact of the program and training model on instructors' knowledge, attitude, and skill were assessed. The results showed that there was a significant difference between the two groups – the test group and the control group. The results stated the positive impact of the training period.

Hornig, Hong, ChanLin, Chang, and Chu, (2005) explored the factors that influence creative teaching and to find out what effective strategies were used by three award-winning teachers in the learning area of Integrated Activities. The participants were three teachers with a GreaTeach Creative Instruction Award for creative teaching in the Integrated Activities field. Results were acquired by analyzing the interview content, the teaching plans, teachers' reflection and the classroom observation videotapes. The study found that the factors influencing creative teaching in Integrative Activities were (a) personality traits: persistence, willingness to develop, acceptance of new experiences, self-confidence, sense of humor, curiosity, depth of ideas, imagination, etc.; (b) family factors: open and tolerant ways of teaching children, creative performance of parents, etc.; (c) experiences of growth and education: self-created games and stories, brainstorming between classmates, etc.; (d) beliefs in teaching, hard work, motivation, and (e) the administrative side of school organization. Among these factors, beliefs in teaching, hard work and motivation were the main aspects. The effective teaching strategies used by the awarded teachers were: student-centered activities, a connection between teaching contents and real life, management of skills in class, open-ended questions, an encouragement of creative thinking and use of technology and multimedia. Integrated Activities were closely connected to life experience and a basis for the development of creative thinking within education.

In another study, Olatoye, Akintunde, and Ogunsanya (2010) investigated the relationship between students' level of creativity and their academic achievement. The sample for the study was 235 final year students on a Business Administration program in four Polytechnics in the Southwest of Nigeria. Results indicated a negative insignificant

relationship between creativity and students' Academic achievement. The negative relationship suggested that some very creative students may not be high academic achievers. It was also shown that creativity did not significantly predict the academic achievement of students. Moreover, it was found that there was no significant difference between male and female students' creativity and their academic achievement. Thus male and female students had the same level of creativity and academic achievement.

In a more recent investigation, Chen, et al. (2012) examined the effectiveness of using blogs in blended creative teaching while also exploring the ideal blended creative teaching model, work completion rates, patent applications (as the teaching outcome), and learning attitudes of students. The research subjects were 46 second year students from the department of early childhood education in a vocational high school. Data were collected from qualitative teaching materials, teaching logs, learning logs, blog applications, and quantitative survey questionnaire. The results showed that the ideal blended creative teaching model could be implemented over six stages. Additionally, creative techniques could help teachers generate ideas on teaching material design and facilitate patent applications. Furthermore, the results of the survey indicated that students possessed positive feedback and affirmation toward the blended creative teaching model. Finally, blog teaching could help enhance interactions between teachers and students and among peers, thus improving the effectiveness of learning.

Reviewing the past studies, one can clearly notice the dearth of research in the area of language teachers' creativity and whether their creativity is related to students' achievement. The present study thus attempt to fill in this gap in the literature by investigating the relationship between Iranian EFL teachers' creativity and language learners' academic achievement.

3. Method

3.1. Participants

The participants were chosen from advanced English teachers and students. Teachers were at an average age range of 26 to 39 years old.

All of the participants were native speakers of Persian. The sample constituted six female English teachers and 81 male and female advanced English learners from a private language institute.

3.2. Instruments

Torrance Test of Creative Thinking (TTCT) was utilized in this study. The TTCT developed by Torrance (1966), is the most widely used test of creativity (Davis, 1997) and is the most referenced of all creativity tests (Lissitz, & Willhoft, 1985). There are two forms (A and B) of the TTCT- Verbal and two forms (A & B) of the TTCT-Figural. The test-retest reliability coefficients of the TTCT-Verbal and Figural ranged from 0.59 to 0.97 (Torrance, 2000). The TTCT-Verbal was used in this study. It had two alternate forms A and B. They could be administered from kindergarten to adults. They consisted of six timed activities. Each activity took either five or ten minutes. For this study, TTCT-Verbal form A was used. The TTCT-Verbal form A consisted of six activities. The first ones required to produce questions, causes and consequences for a situation depicted in one picture, the fourth demands for creative ideas to improve a product, the fifth requires ideas to use tin cans, and the sixth to provide solutions for an imaginable situation. This test evaluates three factors: fluency (the subject's ability to produce a large number of ideas with words), flexibility (the subject's ability to produce a variety of kinds of ideas, to shift from one approach to another), and originality (the subject's ability to produce ideas that are away from the obvious, common or established).

3.3. Data collection and data analysis procedures

The participants of the present study were informed of the purpose of the study, and were asked to take part voluntarily in the study. Firstly, the verbal creativity assessment was carried out to teachers. The test was administered individually. All of the related instructions of the TTCT-Verbal form A were explained to the teachers. The TTCT-Verbal administration followed closely the guidelines of its directions manual. When the creativity scores were obtained, the performance level of individual teachers was also assessed. Out of six teachers, there were one weak level creativity teacher, two below average creativity teachers, two

average level creativity teachers and one above average level creativity teacher.

Afterwards, the teachers who participated in the study reported their students' final exam scores. Top-notch books (advanced) were taught to these students. The scores were obtained from the institute's final exams. The teachers' TTCT-Verbal scores and the students' final scores were used as the quantitative data for the study. Then, the students were categorized based on their teachers' creativity. Afterwards, one –way ANOVA was used to find out the differences between groups.

4. Results

In the first step of data analysis, students were grouped based on their teachers' creativity. Table 1 shows the teachers' creativity and the number of their students.

Table 1. Frequency for creativity levels

	Teachers' creativity level	Frequency
1	Weak	13
2	Below average	11
3	Below average	15
4	Average	12
5	Average	14
6	Above average	16

To compare the students' achievement based on their teachers' creativity level, one-way ANOVA was run. According to Table 2, the differences between groups were significant (sig.= .010, $p < .05$). To know exactly which groups were different from each other, the post hoc table was also studied.

Table 2. One-way ANOVA on creativity levels

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2542.998	3	847.666	4.045	.010
Within Groups	16137.498	77	209.578		
Total	18680.496	80			

As Table 3 below indicates, two mean difference comparisons were significant. The mean differences in the comparisons of above average level and weak level (17.66) and of average and weak level (14.33) were significant at .05 level. The comparison of four creativity groups indicated that the students who enjoyed teachers with above average and average creativity levels did significantly better than the students whose teacher had weak creativity level. But the comparison between other groups did not show any significant difference among them.

Table 3. Scheffe test to compare the differences among creativity groups

Creativity (I)	Creativity (J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Weak	Below average	-12.85385	4.91753	.086	-26.9097	1.2020
	Average	-14.33462*	4.91753	.044	-28.3905	-.2787
	Above average	-17.66875	5.40555	.018	-33.1196	-2.2179
Below average	Weak	12.85385	4.91753	.086	-1.2020	26.9097
	Average	-1.48077	4.01514	.987	-12.9574	9.9958
	Above average	-4.81490	4.59992	.778	-17.9630	8.3332
Average	Weak	14.33462*	4.91753	.044	.2787	28.3905
	Below average	1.48077	4.01514	.987	-9.9958	12.9574
	Above average	-3.33413	4.59992	.913	-16.4822	9.8139
Above average	Weak	17.66875*	5.40555	.018	2.2179	33.1196
	Below average	4.81490	4.59992	.778	-8.3332	17.9630
	Average	3.33413	4.59992	.913	-9.8139	16.4822

* The mean difference is significant at the 0.05 level.

5. Conclusion and Discussion

The main objective of the present study was to find out whether Iranian EFL teachers' creativity influences students' achievement. Table 1 demonstrated one low, two below average, two average and one above average creativity level teachers who participated in this study. Based on the teachers' creativity levels, the students were categorized in four groups. Afterwards, one-way ANOVA was run on the students' scores with different teachers' creativity levels.

As Table 2 showed, the differences between groups were significant ($\text{sig}=.01$). To know exactly which groups are different from each other, post hoc test was run. According to Table 3, the mean differences in two comparisons were significant. Table 3 revealed that the P value in the comparison of weak group with average and above average groups was less than .05. Hence just these two comparisons were significant. The mean difference between average group and weak group was 14.33 ($\text{sig}=.044$), and between above average group and weak group was 17.66 ($\text{sig}=.018$). So, based on the mean differences which were presented in Table 3, the participants of average and above average group did significantly better than the weak group.

All in all, the results of the present study supported the positive effect of the teachers' creativity on students' achievement. Concerning the effect of teachers' creativity on students' achievement, the results of this study are in-line with past research, except for Olatoye, et al. (2010) who found out that creativity does not necessarily predict students' achievement.

Davidovich and Milgram (2006) investigated creative thinking as a predictor of teacher effectiveness. They found few instances of creative teaching strategies among not only elementary school teachers, but also found that a few creative strategies that were used were associated with larger gains over the school year. They suggested that creative teaching is an effective teaching. Schacter, Thum, and Zikfin (2006), in another investigation, studied the relationship between creative teaching and elementary students' achievement gains. The results showed that creative teaching enhances school students' performance. Hosseinee (2008) also studied the impact of the creativity teaching program on teachers'

knowledge, attitude, and skills. The findings stated the positive impact of the training period.

The results of the study suggest that teachers' creativity can make differences in students' achievement. More specifically, it is revealed that students whose teachers benefit from average or above average creativity levels will have better performance in comparison with those whose teachers have weak creativity level. In conclusion, teachers' creativity is required for students' academic achievement. If teachers aim to improve their students' academic achievement, one great way to achieve this is through incorporating creative techniques and strategies into their teaching practice. Teachers have to be trained to know and adopt methods which foster creativity. Equipped with this knowledge, they will be in a better position to boost their students' academic level.

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