Infusing creative pedagogy into an English as a foreign language classroom: Learning performance, creativity, and motivation

Yu-Hsiu Liaoa, Yi-Ling Chena, Hsueh-Chih Chenb,⁎, Yu-Lin Changa,⁎

a Department of Educational Psychology and Counseling, National Taiwan Normal University, Taipei, Taiwan
b Institute for Research Excellence in Learning Sciences, Chinese Language and Technology Center, Department of Educational Psychology and Counseling, National Taiwan Normal University, Taipei, Taiwan

ARTICLE INFO

Keywords:
Creative pedagogy
Creativity
English as a foreign language (EFL)
Motivation
Learning performance

ABSTRACT

This study investigated the impact of creativity pedagogy on learning performance, creativity, and learning motivation in the English as a foreign language (EFL) classroom. With a quasi-experimental approach to assessing treatment effects in the nonequivalent control group design, three instruments of the measure were administered to a sample of 256 elementary school students: 119 and 137 students in the experimental and control groups, respectively. The instruments were an English receptive vocabulary test, the Torrance Test of Creative Thinking, and an English learning motivation questionnaire. The experimental group received an 8-week intervention with regular EFL curriculum-infused activities for creativity. The control group was taught a regular EFL curriculum. The results of one-way analysis of covariance indicated that creativity technique pedagogy significantly improved learners’ English learning performance, creativity, and learning motivation. Implications for educators and directions for future research were discussed.

1. Introduction

It has been argued that creativity can foster learners’ original thinking, increase their engagement in the learning process, and boost their motivation (Avila, 2015; Chiu, 2015; Guilford, 1967; Jones & Richards, 2016; Kaufman, 2016); it has also been identified as an important component of problem-solving and cognitive skills (Plucker, Beghetto, & Dow, 2004). The incorporation of creativity into curricula is an increasingly popular topic in the field of education (e.g., Amabile, 1983; Craft, 2011; Cremin, 2015) as well as in various other fields (Bloom & Dole, 2018; Csikszentmihalyi & Wolfe, 2014). Creative pedagogy refers to teaching that enhances creative development via three interrelated elements: creative teaching, teaching for creativity, and creative learning (Lin, 2011). Its aim is to nurture learners’ “possibility thinking” through effective teaching strategies in a supportive environment (Craft, 2005; Lin, 2011). Further, Cremin, Burnard, and Craft, (2006) have argued that three core elements of creative pedagogy must be followed if it is actually to facilitate the development of creativity. These are: standing back; providing opportunities for learners to initiate activities or make choices; and giving them time and space to develop new ideas.

Prior research in the field of English as a foreign language (EFL) teaching has suggested that successful second/foreign language learning requires an appropriate learning environment and is dependent on personal psychological variables such as creativity and motivation (e.g., Gardner & MacIntyre, 1993; Lightbown & Spada, 2013). Nevertheless, little research has investigated to what extent...
creative pedagogy influences learners in the EFL classroom. In view of the growing numbers and decreasing ages of EFL learners worldwide (Pinter, 2017), this study examined the extent to which creative pedagogical techniques – such as encouraging language learners to use their curiosity to explore and observe, and to use their imagination to brainstorm novel ideas non-judgmentally, while completing tasks in pairs or small groups – affected creativity and language performance among a group of six- and seven-year-old EFL students in a primary-school setting.

1.1. EFL teaching approaches

A variety of teaching methods have been developed with the aim of improving EFL learners’ language performance (e.g., Beghetto, 2010; Larsen-Freeman & Anderson, 2013). In the early stage of such methods’ development, the audio-lingual method was widely used in EFL classrooms; language learning was considered cognitive and mainly involved memorization (Coleman & Klapper, 2005). Thus, the teaching model that emerged in most EFL classrooms consisted of imparting the four language skills – i.e., listening, speaking, reading and writing – through drills and sentence-patterns memorization (Savignon, 2018). However, the audio-lingual method was challenged due to learners’ repeated failures to use correct sentences and vocabulary when spontaneously interacting with native speakers (Savignon, 1972), and theorists proposed that language could be learned more effectively through processes of social interaction (Nunan, 1991). Thus, communicative language teaching (CLT) has emerged as the dominant technique (William, 1981). As well as stressing learners’ ability to communicate, CLT focuses on the teacher’s role as a facilitator rather than an instructor, while students are expected to complete task-based activities while communicating with their teachers and peers in the target language. CLT still has some limitations in EFL classrooms, however (e.g., McKay, 2002). For instance, its emphasis on learning from in-class interactions in the target language has been criticized as neglecting the value of the languages learners might already know (Swan, 1985). Moreover, CLT focuses on the development of oral rather than written production or reading, which may limit EFL learners’ potential (Ridge, 1992).

1.2. Creative pedagogy and language performance

To enhance EFL learners’ acquisition of language abilities in the classroom, their instructors should teach creatively to motivate them to engage in the learning process (National Advisory Committee on Creative & Cultural Education (NACCCE), 1999). In addition to CLT, there have been many efforts to develop such creative-teaching methods, including task-based language teaching and cooperative language teaching. Yet, by the same token, creativity in the sphere of EFL has generally referred to the creativity of teachers rather than that of students. As such, the present research focuses on creative pedagogy, which nurtures language learners’ creativity in the EFL classroom, and promotes their language performance simultaneously with intensive activities aimed at building their creativity. Though many traits of creative pedagogy overlap with those of CLT, the former can be applied to more compressive language skills and leverage learners’ prior language skills and knowledge. The following section discusses the relationship between creative pedagogy and language performance in more detail.

The creative-thinking process involves a number of skills, such as being aware of information problems, reconstructing data, and providing solutions (Torrance, 1973). Creativity has been called indispensable for progress in any field (Amabile, 1983), on the grounds that it comprises abilities to produce novel solutions (Lubart & Guignard, 2004; Russ & Fiorelli, 2010). Its constituent skills require practice and can be enhanced by teaching (Runco, 2004; Torrance, 1973). One such skill, widely identified as crucial to the development of creativity, is divergent thinking (Russ, 2003). Unlike people with convergent thinking skills, who focus on finding the best answer to a question, people with divergent-thinking skills tend to take account of a much broader range of ideas for solutions (Guilford, 1967). Among various techniques for building divergent-thinking skills and/or generating ideas, brainstorming – introduced by Osborn (1942) – is the most widely used and studied (Holt, 1996). It encourages the sharing of a continual flow of ideas possible ways to solve problems, without criticizing one another (Haarmann, O’Rourke, & Ragusa, 2012). Additionally, because it encourages learners to transfer their ideas from the brain to the tongue, teachers may use explicit instruction in the brainstorming approach to focus their students on the process of language learning rather than on language production, thus promoting their creativity as well as their learning performance (Maghsoudi & Haririan, 2013).

The present study proposes that creative pedagogy’s facilitation of EFL learning can be divided into three dimensions: meaningful learning, dual-code theory, and playfulness. With regard to the first, activities designed for promoting creativity may benefit meaningful learning, in contrast to rote memorization which often fails to build connections between new information and stored knowledge (Mayer, 2002). According to Ausubel (2000), meaningful learning occurs in the process of integrating new knowledge with existing knowledge; and similarly, Russ and Fiorelli (2010) argue that learners engage in meaningful learning when they use their creativity to transform the known into the unknown in the process of solving a problem or completing a task. Thus, by participating in activities aimed at promoting creativity, students are likely to simultaneously be involved in meaningful learning. Kuo and Hooper (2004), for example, investigated the effects of various approaches to learning Chinese characters, and found that their English-speaking participants who generated their own mnemonics had higher posttest performance than those who had been instructed to use visual coding, verbal coding, or translation. In other words, the known linkage between meaningful learning and using one’s creativity may enhance language performance.

With regard to creative pedagogy’s second dimension, language-learning activities organized according to creative-pedagogy principles involve speaking, reading, listening, singing, drawing, and other actions aimed at completing tasks, all of which may help learners to retain information and recall it later. This is in line with dual-code theory (Paivio, 1986, 2014), which holds that human cognition involves two distinct processing systems: nonverbal and verbal stimuli and responses. Verbal and nonverbal stimuli are
received through the sensory system and transformed into mental images stored in the memory; thus, activities such as word-association, self-generated imagery, the use of illustrations, the keyword method, verbal-associative methods and multimedia aids may expedite the associative processing of connections among verbal and nonverbal mental images (Paivio & Desrochers, 1980; Paivio, 2014). A number of studies have suggested that this dual-coding may facilitate recognition and/or recall in language learning, especially in the sphere of vocabulary (e.g., Lee, 2017; Porter, 2016; Sadoski, 2006).

The final proposed dimension of creative EFL pedagogy, playfulness, is arguably its most important (Craft, McConnon, & Matthews, 2012; Cremin et al., 2006), as it can make learning interesting, motivate learners to engage more fully in the learning process, and foster “possibility thinking” (Cremin et al., 2006, p108). Play has been found to facilitate insight and divergent thinking (e.g., Russ, 2003). Because most creative activities require learners to collaborate on tasks in pairs or small groups, creative pedagogy provides a supportive environment that engages them in the learning process and boosts their learning motivation (Amabile, 1983; Marashi & Khatami, 2017); and language learners’ motivation is closely linked to their performance (Oxford & Shearin, 1994), as when people take pleasure in an activity, they are likely to be driven by personal interest to complete any tasks that the activity requires them to perform (Cheung, 2018; Sullivan, 2000). Consequently, it is reasonable to expect that creative pedagogy can not only provide learners with the primary impetus to learn a language, but also sustain the language-learning process.

Language, by its nature, is a product of creativity and has many dimensions that intertwine with it (Carter, 2015). As such, language and creativity share certain mental characteristics (Albert & Kormos, 2011; Gajda, Karwowski, & Beghetto, 2016; Guilford, 1967): for example, just as creative individuals connect two seemingly irrelevant elements into new creations that serve particular needs, language users recreate, refashion and re-contextualize languages when communicating. Creativity may thus be considered a metacognitive factor that substantially influences and shapes the process of learning foreign languages (Nosratinia & Zaker, 2015), and is therefore crucial to learners’ mastery of their target languages (Craft, 2011; Shepard & Runco, 2016). Empirical studies have clearly demonstrated a positive correlation between creativity and EFL language performance (e.g., Nosratinia & Zaker, 2015; Otté, 1998; Pishghadam, Khodadadi, & Zabihi, 2011). A small body research has examined the impact of creative-thinking skills training in EFL classrooms – mostly, in the context of brainstorming among university students – and found that the participants’ language performance improved after such activity (e.g., Khodadady, Shirmohammadi, & Talebi, 2011; Maghsoudi & Haririan, 2013; Rao, 2007). In light of such findings, it is reasonable to assume that the enhancement of foreign-language learners’ creativity will have a positive impact on their target-language performance.

1.3. The present study

From the above discussion, it is reasonably clear that creative-thinking skills are crucially important in the domain of foreign-language learning; yet, despite the ever-younger age profiles of EFL learners, most of the relevant prior research in this area has been conducted with university students, and focused narrowly on speaking and writing skills, at the expense of reading and listening. The present study therefore examines the effects of creative pedagogy on all four language skills of elementary-school students learning English. The strong linkage between creativity and motivation has also led the present researcher to question whether motivation may be an important mediating factor in creativity training’s improvement of language performance. Thus, in light of the foregoing review and discussion, our research questions are:

(1) To what extent can a creative-pedagogy intervention affect the creativity and language performance of EFL learners in the lower primary grades?
(2) Is motivation a mediator of the relationship between creative EFL pedagogy and primary-school students’ English-language performance?
(3) How do the participants in a creative EFL pedagogy intervention perceive its role in their learning processes?

2. Methods

2.1. Participants

The sample consisted of 256 Taiwanese EFL students aged 6–7 years in a suburban area of Taipei City. Because the sample comprised 14 intact classes, the numbers and gender balance of participants in the experimental (119 students, 48% male) and control groups (137 students, 58%) were unequal. Based on an anonymous survey of the socioeconomic and educational backgrounds of both groups, it was found that the two groups were similar in these respects, with most students being from working-class families, and more than 35% of their parents being technicians or machine operators. Both groups also had similar levels of English comprehension. Their average ages were 6.6 and 6.5 years, respectively. All the teachers for both groups had similar levels of experience of teaching English to this age group, i.e., approximately three years.

The students’ English program, which preexisted the eight-week intervention, was extracurricular. As is usual in elementary schools in Taiwan, the students at the target school were divided into three groups: a lower level (grades one and two), an intermediate level (grades three and four), and a higher level (grades five and six). Students within a given level tend to follow the same schedule, subject-specific learning guidelines, and curriculum. Thus, the experimental group and the control group both consisted of a random combination of first and second graders. Specifically, the number (proportion) of first graders in the experimental group was 53 (45%), and in the control group, 64 (48%).
2.2. Materials

The teaching materials for the intervention were selected from textbook content from the school’s existing first- and second-grade English curriculum, and covered three theme units: the alphabet, colors, and animals (see Fig. 1). Both groups’ teaching was conducted by the children’s existing English teachers, who also selected songs and reading books for extension activities aimed at providing a range of ways to practice what the students were learning in the classroom. Though both groups used the same teaching materials, their activities differed, and the worksheets used by the experimental group were designed to encourage the use of creativity when completing tasks in class.

2.3. Design and procedure

The study employed a quasi-experimental methodology: specifically, a pretest-posttest repeated-measures design. Before the intervention, the experimental- and control-group teachers had each of their students complete a Torrance Tests of Creative Thinking (TTCT), an English learning motivation questionnaire, and an English vocabulary test (each of which is more fully described below). Both groups were then given a total of 14 twice-weekly English classes, each session being 40 min in length.

In each session, the teachers for both groups sequentially introduced a song, vocabulary, and a picture book related to the current unit theme. Brainstorming strategy was infused into the teaching activities aimed at the experimental group, but not those aimed at the control group; and the experimental group was also relatively more engaged in activities designed to enhance their creativity and English literacy (see Table 1). Through brainstorming, the experimental-group participants were encouraged to share a continual flow of ideas without criticizing one another, and to complete questions and tasks provided by their teachers. In general, these brainstorming activities were designed have students engage in the learning process instead of focusing on the learning product. For example, when learning vocabulary relating to colors, instead of steadily repeating the words in question, the students searched for objects related to a particular color, or applied the words to things they had seen in daily life. This provided them with more chances associate the vocabulary with their lived experience, without necessarily reducing the amount of vocabulary practice they were able to engage in. Further details of the teaching activities for the experimental group can be seen in Appendix A.

The students in the control group, on the other hand, followed the school’s prevailing English-teaching methods, which focused on the acquisition of core and concrete knowledge. For the most part, this activity was teacher-centered or otherwise directive in character. For example, when learning vocabulary, the students were generally asked to recite it; when learning colors, they were directed to color pictures according to a color key printed on the worksheet; and their teachers read the picture books to them and provided explanations of their stories.

Lastly, the posttest for both groups consisted of the same three evaluation instruments that were applied in the pretest, to measure the dependent variables following the intervention.

2.4. Instruments

The current study’s focus on the impact/effectiveness of creative pedagogy and the potential role of motivation as a mediator
between creativity and EFL learning outcomes required that it measure the participants’ motivation, as well as changes in their creativity and language performance. Accordingly, the researchers applied TTCT to gauge the students’ creativity; English tests to measure their language performance; and a questionnaire to assess their English learning motivation. We also collected qualitative information regarding their opinions of the intervention. Each of these four data sources is dealt with in turn below.

### 2.4.1. TTCT

Devised in 1974, the TTCT – since translated into more than 35 languages (Millar, 2002) – has been the most widely used (Davis, 1997) and most-cited of all creativity tests in the years since, used in the corporate world as well as in educational contexts (Kim, 2017; Lissitz & Willhoft, 1985). It comprises three picture-based exercises that assess originality, resistance to premature closure, and abstractness of titles. Examinees draw and provide a title for their drawings, write questions, reasons, consequences, and different uses for objects. The TTCT is published in two distinct versions of equivalent difficulty, specifically for use in pre- and post-testing. Both these versions were adapted for use by Chinese speakers by Li (2006), who tested their validity and reliability and found them acceptable (Cronbach’s α values ranged from 0.91 to 0.99).

### 2.4.2. English vocabulary gain

English performance was measured mainly in terms of vocabulary, due to the youth and inexperience of the participants, most of whom had barely enough vocabulary to build complete English sentences. Thus, their performance was assessed via 50 items divided into two sections: listening and reading. Both were examined by experienced English teachers and experts in this field for the breadth and appropriateness of all the tasks; and the Cronbach’s α for the overall test was 0.80.

Each listening question was in two parts. First, the teacher read one of three English letters shown on the worksheet, and told the students to circle the one they heard. Next, the students were required to number the words in the order the teacher had read them. The reading assessment comprised three sections. In the first, the students were required to choose pictures that corresponded to the vocabulary words; thus, it was easy for the young speakers in the lower primary grades, and did not contain culture-specific or area-specific expressions; thus, it was easy for the young students to comprehend. It consisted of 20 items, all answered via the same four-point Likert scale, ranging from 1 (strongly disagree)

### 2.4.3. English learning motivation questionnaire

According to Vallerand (1997), motivation is associated with three principal results: cognitive, behavioral, and affective. In accordance with this theoretical proposition, this questionnaire – adapted from Chan and Lin (2010) – included assessments of cognitive, behavioral, and affective outcomes. It was selected for use in this study because it was specifically designed for Chinese speakers in the lower primary grades, and did not contain culture-specific or area-specific expressions; thus, it was easy for the young students to comprehend. It consisted of 20 items, all answered via the same four-point Likert scale, ranging from 1 (strongly disagree)
to 4 (strongly agree), though nine of them were reverse-scored. Its three subscales covered cognition (eight items; ex: I think English is important), behavior (six items; ex: I reviewed the English lessons and listened to the recording of the lessons), and affect (six items; ex: I am afraid to be laughed at when I speak English). The reliability values of these three subscales were 0.66, 0.67, and 0.6, respectively; i.e., all at or above the acceptability threshold of 0.6 (Fornell & Larcker, 1981). The Cronbach’s α values for the experimental and control group were 0.87 and 0.90 respectively. Additionally, 10th graders from another school were invited to fill in the questionnaire as a cross-check on its consistency, and two experts in EFL teaching gave the researchers their opinions on the breadth and appropriateness of the questions.

2.4.4. Feedback form
This form was designed by the researchers for the purposes of obtaining more information about the students and their teachers responded to the intervention. To avoid implicit hinting in the question, this took the form of a single open-ended question for both these groups: “What do you think of the activities in English class?” All answers were provided in written form in Chinese.

3. Results

Because this study was a nonequivalent control group pretest-posttest quasi-experimental design, the researchers performed a cross-group analysis of covariance (ANCOVA) with the posttest scores as the dependent variable; group membership as the fixed factor; and pretest scores as the covariate. Prior to conducting the one-way ANCOVA, a Levene’s test was conducted to assess the variance homogeneity of the experimental- and control-group scores, and found that equal variances (p > .05), confirming the appropriateness of parametric testing (e.g., ANCOVA). Mediation analysis—which facilitates a better understanding of the relationship between the independent and dependent variables, when they appear to not have a definite connection—was also employed to arrive at a better understanding of the two teaching methods’ interrelationships with motivation and language performance.

3.1. Quantitative analysis

Descriptive statistics for the experimental and control groups are shown in Table 2. Table 3, meanwhile, indicates that the mean scores of the experimental group improved, more than those of the control group, between the pretest and the posttest, with the adjusted mean of the former being 80.93, and of the latter 76.35. The ANCOVA results (Table 3) demonstrate that these differences were statistically significant, with a medium effect size, $F(1, 253) = 7.74, p = .006, \eta^2 = .03$.

Table 4 lists the results of descriptive statistical analysis of the two groups before and after the intervention, along with the between-groups ANCOVA results. Specifically, the table indicates an improvement in the experimental group’s adjusted mean scores, whereas the control group received lower average scores on the posttest than the experimental group did; and that, after controlling for the pretest scores, the effect of the creativity intervention reached a significant level, except in the case of fluency – i.e., originality: $F(1,253) = 15.73, p < .001, \eta^2 = 0.059$; elaboration: $F(1,253) = 98.05, p < .001, \eta^2 = 0.279$; resistance to premature closure: $F(1, 253) = 3.74, p < .05, \eta^2 = .015$; and abstractness of titles: $F(1, 253) = 10.89, p = .001, \eta^2 = 0.041$. According to the criteria proposed by Cohen (1988), the effect size for elaboration was large; for originality, medium; and for both abstractness of titles and resistance to closure, small.

In terms of English learning motivation, Table 4 shows that the adjusted mean scores of the experimental group were statistically higher than those of the control group in two categories, albeit with a small effect size in each case (cognition: $F(1, 253) = 7.22, p = .01, \eta^2 = 0.028$; affect: $F(1, 253) = 5.72, p = .002, \eta^2 = .022$). In the case of behavior, the difference was not significant. The mediation model indicated that, while teaching method predicted both motivation and performance, the latter two variables had no significant relationship with each other, indicating that motivation did not mediate the relationship between teaching method and language performance.

3.2. Qualitative analysis

Feedback from the students was quite positive regarding the intervention’s perceived cognitive, emotional, and learning-performance effects. Firstly, it seemed that learners liked to participate in the activities, with some responding that they had fun drawing and playing games in English class. One wrote: “I like the games in the class, particular the one where we had to look for the assigned

Table 2
Outcomes of ANCOVA, English Receptive Vocabulary.

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Pretest mean (SD)</th>
<th>Posttest mean (SD)</th>
<th>Adjusted mean</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG</td>
<td>119</td>
<td>63.67 (23.16)</td>
<td>80.54 (18.51)</td>
<td>80.93</td>
<td>1</td>
<td>7.74**</td>
<td>.006</td>
<td>.030</td>
</tr>
<tr>
<td>CG</td>
<td>137</td>
<td>64.91 (17.47)</td>
<td>76.70 (17.88)</td>
<td>76.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: EG = Experimental Group; CG = Control Group. *p < .05; **p < .01.
and say its name correctly. I learned how to pronounce English words correctly and learned the words for colors. Secondly, the participants appeared to like working with one another and solving problems as part of a team. As one explained, “I like to play Body ABC. I like to work with other people to personalize the alphabet and make others to guess what the letters we made. It was so fun to see other people make funny movements.” Most of the students considered learning English to be interesting, and reported feeling motivated to learn it. And third, the idea-evoking activities seemed to help the participants use what they had learned; their comments included, “I think my English is getting better because I know many English words,” and “It is fun to use English to answer teachers’ questions. I am happy to be able to use English.”

4. Discussion

This study’s investigation of the effectiveness of creative pedagogy involving creative thinking skills and brainstorming in 6 Taiwanese primary-school EFL classrooms has shown that, after the intervention, the participants’ language performance, creativity, and learning motivation all improved. This echoed previous findings (e.g., Chang et al., 2017; Doron, 2017; Miller, Fox, Moser, & Godfroid, 2017).

4.1. English performance

The significant increase in the experimental group’s English performance suggests that the use of creative pedagogy can help build primary-school students’ English-language skills. In contrast to the control group’s traditional curriculum, the creative-pedagogy approach facilitated the children’s use of the English language creatively, and offered them a degree of autonomy when it came to their choice of responses.

Moreover, the creative-pedagogy intervention helped the students to learn words and participate in meaningful activities that promoted a deep level of cognitive processing: outcomes in line with Ausubel (2000) theory of meaningful learning; Paivio (2014) dual coding theory; and Sokmen (1997) arguments that effective vocabulary acquisition requires deep processing and the planned reencountering of words. The reasons that language-learners often improve their knowledge and skills when a deeper level of semantic processing is required may include the encoding of words with elaboration (Craik & Lockhart, 1972); and according to Baddeley (1997), the elaborative thinking process, by encoding information to richer levels, improves learners’ access to their own knowledge, thus improving their performance, as compared to what could be achieved via rote learning or repetition. In the current study, as the learners related the target words to their own experiences, and justified their choices, those words’ associations with their mental images were reinforced. As such, the creative-pedagogy intervention enabled these first and second graders to extend their learning experience beyond the classroom, and thus to retain new words longer via the formation of associations and the growth of their semantic networks (Machalias, 1991; Nation, 2001).

Table 3

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Pretest mean (SD)</th>
<th>Posttest mean (SD)</th>
<th>Adjusted mean</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EG</td>
<td>119</td>
<td>15.95 (6.45)</td>
<td>22.93 (6.14)</td>
<td>22.14</td>
<td>1</td>
<td>.06</td>
<td>.806</td>
<td>.000</td>
</tr>
<tr>
<td>CG</td>
<td>137</td>
<td>13.18 (6.51)</td>
<td>21.27 (6.93)</td>
<td>21.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Originality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EG</td>
<td>119</td>
<td>11.65 (5.29)</td>
<td>16.89 (4.80)</td>
<td>16.24</td>
<td>1</td>
<td>15.73**</td>
<td>.000</td>
<td>.059</td>
</tr>
<tr>
<td>CG</td>
<td>137</td>
<td>8.86 (4.85)</td>
<td>13.56 (4.49)</td>
<td>14.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaboration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EG</td>
<td>119</td>
<td>2.54 (1.31)</td>
<td>3.84 (1.01)</td>
<td>3.80</td>
<td>1</td>
<td>98.05***</td>
<td>.000</td>
<td>.279</td>
</tr>
<tr>
<td>CG</td>
<td>137</td>
<td>2.31 (1.05)</td>
<td>2.68 (0.86)</td>
<td>2.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resistance to Premature Closure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EG</td>
<td>119</td>
<td>7.03 (3.36)</td>
<td>9.47 (2.56)</td>
<td>9.12</td>
<td>1</td>
<td>3.74*</td>
<td>.054</td>
<td>.015</td>
</tr>
<tr>
<td>CG</td>
<td>137</td>
<td>5.00 (2.89)</td>
<td>8.20 (2.71)</td>
<td>8.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abstractness of Titles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EG</td>
<td>119</td>
<td>0.40 (1.26)</td>
<td>0.47 (1.21)</td>
<td>.44</td>
<td>1</td>
<td>10.89***</td>
<td>.001</td>
<td>.041</td>
</tr>
<tr>
<td>CG</td>
<td>137</td>
<td>0.18 (0.50)</td>
<td>0.06 (0.38)</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. EG = Experimental Group; CG = Control Group. *p < .05; **p < .01; ***p < .001.

Table 4

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Pretest mean (SD)</th>
<th>Posttest mean (SD)</th>
<th>Adjusted mean</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EG</td>
<td>119</td>
<td>26.12 (3.77)</td>
<td>28.05 (3.65)</td>
<td>28.08</td>
<td>1</td>
<td>7.22**</td>
<td>.008</td>
<td>.028</td>
</tr>
<tr>
<td>CG</td>
<td>137</td>
<td>26.29 (4.03)</td>
<td>26.75 (0.85)</td>
<td>26.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EG</td>
<td>119</td>
<td>19.67 (3.44)</td>
<td>20.89 (3.37)</td>
<td>20.82</td>
<td>1</td>
<td>5.72*</td>
<td>.017</td>
<td>.022</td>
</tr>
<tr>
<td>CG</td>
<td>137</td>
<td>19.20 (3.79)</td>
<td>19.72 (3.82)</td>
<td>19.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EG</td>
<td>119</td>
<td>18.88 (3.81)</td>
<td>20.28 (3.32)</td>
<td>20.27</td>
<td>1</td>
<td>1.18</td>
<td>.277</td>
<td>.005</td>
</tr>
<tr>
<td>CG</td>
<td>137</td>
<td>18.83 (3.77)</td>
<td>19.81 (3.74)</td>
<td>19.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. EG = Experimental Group; CG = Control Group. *p < .05; **p < .01; ***p < .001.
Following an investigation of a number of social and environmental factors known to foster creativity, Amabile (1996) identified playfulness as the key support component for creative learning. Playfulness may lead to improvements in affect, which in turn may positively influence memory and learning (Miller et al., 2017). Moreover, positive affect itself may act as a retrieval cue for concepts located on pathways (Christianson, 2014), thus directing attention to the situation at hand, providing signals to the cognitive system, and facilitating evaluations of responses to the current situation (Bower, 1992). Conceivably, then, an affective state could influence language processing (Miller et al., 2017), which concurs with Krashen (1981) concept of an affective filter. In the present study, those language learners who received creative pedagogy may have felt less pressure than the others, and hence gained more language input from the learning environment, and learned better.

4.2. Creativity

The results of the current study also indicate that creative pedagogy is capable of improving young language learners’ creativity. Because this mode of teaching highlights creative-thinking skills, the participants were encouraged to utilize their autonomy to respond to the designed in-class activities. Following the intervention, almost all the experimental-group participants’ scores on the creative-thinking skills subscales significantly improved. Significant differences were also observed in most of the domains of the creativity test between the experimental and control groups: results consistent both with the researchers’ expectations and with some prior creativity research (e.g., Chang, Chen, Wu, Chang, & Wu, 2017; Doron, 2017; Fleith, Renzulli, & Westberg, 2002). As such, the present findings go some way to confirming the positive impact of brainstorming techniques in EFL classrooms.

Significant inter-group differences were also observed in the four subscales of the TTCT other than fluency. In this context, fluency refers to the ability to generate as many ideas as possible. Learning new languages involves generating concepts using new linguistic forms, especially in writing and speaking; and this study’s experimental and control groups both consisted of EFL learners. The experimental group’s mean fluency posttest score was higher than the control group’s, but was non-significant – possibly because both groups’ fluency increased at more or less the same rate. Such an outcome would echo past empirical evidence that bilinguals outperform monolinguals on measures of creativity performance (Ghosnooly & Showqi, 2012), and particularly so in fluency (Carringer, 1974; Jacobs & Pierce, 1966). In other words, learning a foreign language could increase a person’s fluency substantially, irrespective of whether creative pedagogy was used.

On the whole, the present results regarding the dimension of creativity are consistent with those of prior studies, and confirm the effectiveness of the intervention. Notably, the effect size for elaboration – i.e., the ability to add details, fill in gaps, and embellish – was very large. From this, it can be concluded that their exposure to creative pedagogy enhanced the experimental-group members’ ability to think about details.

4.3. Learning motivation

In terms of the impact of creative pedagogy on learning motivation, the experimental group’s posttest scores for cognition and affect were both significantly higher than their pretest counterparts. The same group’s behavior score also increased, and was higher than the control group’s, but to a statistically non-significant degree in the latter case. Again, this might reflect that the EFL curriculum boosted the target schoolchildren’s motivation regardless of whether creative pedagogy was used. However, given that the intervention period was rather short, it is conceivable that significant differences between the two groups’ behavior scores would have emerged over a longer period.

The experimental group significantly outperformed the control group on measures of motivation, indicating that creative pedagogy can effectively improve young children’s English learning motivation. This result is consistent with Miller et al. (2017) findings that enjoyment of learning, hope, and pride correlated positively with students’ interest, effort, elaboration of learning material, self-regulation of learning, and learning performance. Likewise, it echoes Lightbown and Spada (2013) recommendations that language educators strive to make learning interesting and present the classroom as a place of fun; and that by setting learning goals that are challenging yet achievable, they can further contribute to such an atmosphere. As well as confirming that creative pedagogy can simultaneously enhance young foreign-language learners’ motivation and creativity, the present study has demonstrated that specific creative pedagogy techniques are well suited to increasing these students’ learning interest and learning performance.

The feedback from learners, which as noted above was generally positive, can be subdivided into three dimensions. First, behaviorally, those students who received the creative-pedagogy intervention obviously engaged more in the activities in and outside the classrooms. They were willingly to spend more time on doing activities related to English learning. Second, in the dimension of cognition, creative pedagogy was credited with making the class a more interesting learning environment. And third, the students enjoyed themselves in the experimental English class and reported positive emotions about both learning English and the creativity training they received. The participants’ apparent preference for dynamic learning over static learning echoed Piaget (1970) theory regarding the preference of children at this stage of their development to prefer learning via games. Among those of the current study’s participants who were easily distracted in class, many seemed to be more engaged during the creative-pedagogy activities than at other times.

On the negative side, perhaps exacerbated by the limited duration of each lesson and of the intervention as a whole, and/or the youth of the participants, the teachers of the experimental group seemed to need more time at the beginning of each class to explain the upcoming activities. Additionally, students in the same group sometimes needed more time to complete their tasks – though they also appeared quite willing to delay their breaks to make time to finish them. As such, effective classroom implementation of creative-
pedagogy techniques may require better time-management on the part of teachers. Lastly, though students’ motivation was boosted by learning from each other during team activities, they were sometimes unable to respond promptly or complete tasks within a reasonable time: another issue that will need to be addressed if creative pedagogy is to be applied on a wide scale among very young learners.

5. Limitations and directions for future research

Though the results of this study have demonstrated creative pedagogy’s effectiveness in a particular setting, certain limitations should be noted. One is the short intervention period of eight weeks; future researchers should consider longer interventions. Likewise, future studies might usefully focus on EFL learners of a wider range of ages, as the characteristics of effective creative-pedagogy activities are likely to change sharply as one moves up the grade levels. Lastly, future researchers may wish to consider using additional or alternative instruments capable of providing a more comprehensive view of learners’ language performance.

6. Conclusion

This study has provided important empirical evidence in support of the effectiveness of creative pedagogy in primary-school EFL classrooms. Given that little research had been conducted on such interventions in the lower grades, this work has not only filled a notable gap in the creativity literature, but also advanced knowledge across the disciplines of linguistics, education, and psychology, by illustrating the feasibility of innovative teaching activities and their capacity to enhance language performance and creativity in the EFL classroom. Its findings also constitute an important contribution to the theoretical and practical literature on East Asian education in particular, in light of the recent promotion there of whole-person curricula, of which creativity constitutes a major part. Lastly, it is hoped that the results of this study will facilitate future, more in-depth research on the linkages between creativity and teaching, which in turn will lead to the creation of enhanced learning environments.

Acknowledgements

This work was financially supported by the “Institute for Research Excellence in Learning Sciences” and the “Chinese Language and Technology Center” of National Taiwan Normal University (NTNU) from The Featured Areas Research Center Program within the framework of the Higher Education Sprout Project by the Ministry of Education (MOE) in Taiwan, and by the Research Grant 106-2410-H-003-014-SS3 from Ministry of Science and Technology (Taiwan).

Appendix A

BA = Brainstorming Activity
BA 1: Students play in pairs and think of ways to use their bodies to represent letters.
BA 2: Students draw pictures of letters: for example, they could draw a capital A as a tower, or hide the letter Z in a picture of zebra.
BA 3: After reading Alphabet City, the teacher spread printouts of the book’s pictures around the classroom, and then had the students work in pairs to find the pictures and guess what letters they contained.
BA 4: The teacher prepared cellophane sheets in three colors – red, yellow, and blue – and showed the students how making two of sheets of different colors overlap could make new colors (e.g., orange from red and yellow) and had the students say the name of the resulting new color in English. Then, the children continued the same activity in pairs.
BA 5: The teacher asked all the students to stand up and go touch objects in the classroom of a particular color that s/he called out. Each object could only be touched once.
BA 6: While reading a picture book, the teacher asked the students questions about the story and formed them into groups or pairs tasked with discussing the story and finding out the answers.
BA 7: The teacher asked each student to think of a movement representing one of the animals mentioned in “The Elephant Song”, and to perform the selected movement while the song was playing.
BA 8: The teacher had each student stand in the center or at the front of the classroom and pretend to be an animal, and asked the other students to guess what animal it was. The first one to guess the right answer would be given a prize.
BA 9: After reading Monkey and Me, the teacher had the students rewrite its sentences according to their daily life experiences. For example, one student rewrote the passage “Monkey and me. Monkey and me. We went to see. We went to see some bats.” as: “My sister and me. My sister and me. We went to see. We went to see TV.” Another wrote, “Dinosaur and me. Dinosaur and me. We went to see. We went to Transformers.”

References

Language and Linguistics, 1(1), 60. https://doi.org/10.11648/j.jill.s.20130101.20.


