Thinking Skills and Creativity 5 (2010) 49–60

Contents lists available at ScienceDirect

Thinking Skills and Creativity

journal homepage: http://www.elsevier.com/locate/tsc

Creativity in early childhood education: Teachers' perceptions in three Chinese societies☆

Chu-ying Chien[a], Anna N.N. Hui[b,*]

[a] Graduate Institute of Early Childhood Education, National Chengchi University, No. 64, Zhi-nan Road, Section 2, Wen-shan District, Taipei, Taiwan, ROC
[b] Department of Applied Social Studies, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China

ARTICLE INFO

Article history:
Received 11 March 2009
Received in revised form 14 January 2010
Accepted 7 February 2010
Available online 18 February 2010

Keywords:
Creativity
Teacher perception
Early childhood education

ABSTRACT

Recent emphasis on the development of creativity in Chinese students across various educational levels is highlighted in various Chinese societies, including Shanghai, Hong Kong, and Taiwan. Early childhood educators as important gatekeepers of fostering creative development in young children were invited to give their professional opinion on the influence of these variables. A total of 877 early childhood educators (233 from Hong Kong, 262 from Shanghai, and 382 from Taiwan) took part in the study by completing a questionnaire on perception of promoting creative education in early childhood settings. The ecology of creative teaching was strongly associated with the ecology of creative learning. Significant main effects were found in the influential factors of creativity, ecological factors of creative teaching, ecological factors of creative learning, improvement for creativity as well as barriers of creativity among teachers of the three societies. Veteran teachers scored significantly higher in ecology of creative teaching as well as in ecology of creative learning than teachers in mid-career and novice teachers. No significant interaction of society and teaching experience was obtained. Implications and challenges faced by these three groups of teachers and limitations of the study are also discussed.

1. Introduction

The recent emphasis on the development of creativity in Chinese students across various educational levels is highlighted in different Chinese societies, including China, Hong Kong and Taiwan. Creativity has been encouraged in higher education in China (Ministry of Education of the People's Republic of China, 1998) and stressed as the major theme in educational reform of China in the 21st century (Zhou & Kao, 1999). In the publications *Learning to learn: The way forward in curriculum development* (Curriculum Development Council (CDC), 2001) and *Guide to pre-primary curriculum* (Curriculum Development Council, 2006) creativity has been identified as one of the nine generic skills to be nurtured in the curricula of primary and secondary schools in Hong Kong. An official white paper on *Creative education: Establishing a Republic of Creativity for Taiwan*, published in 2003, advocates a multi-level approach to fostering creativity at the individual, school, societal, industrial and cultural levels in Taiwan.

This overwhelming popularity in creativity development in these contemporary Chinese societies seems to reflect an awareness of the importance of creativity and recognize the positive effects that creativity education can bring to children. Educators agree that creativity should be valued and developed in the school systems. Official documents related to education

☆ The early contribution of Y. Y. Wang and S. F. Chen has been greatly appreciated.
* Corresponding author. Tel.: +852 3442 8260; fax: +852 3442 0283.
E-mail addresses: cychien@nccu.edu.tw (C.-y. Chien), annahui@cityu.edu.hk (A.N.N. Hui).

1871-1871/$ – see front matter © 2010 Elsevier Ltd. All rights reserved.
doi:10.1016/j.tsc.2010.02.002

are now emphasising the importance of creativity. Implementation plans are operating at various levels. Perceptions of policy makers and educators of each level will set the scene for implementation efforts in creativity education.

1.1. Creativity in education

Early childhood education, as well as providing the foundation for formal education, should also be concerned with fostering creative development in young children. A distinctive feature of the construct of creativity is its complexity, which is reflected in the range of psychometric properties used to measure it, including fluency, flexibility, originality and elaboration (Guilford, 1950; Torrance, 1974). Rhodes (1961) theorized 4 P's approaches to the study of creativity in creative "persons" or individuals who perform creative behaviors and yield creative "products" by different creative "processes" and in different context known as "press", such as social, cultural and organizational contexts facilitating creativity.

Creativity in individuals is made possible by a confluence of cognitive, emotional, environmental and motivational variables. Psychologists have identified many cognitive factors related to creativity, such as divergent thinking (Guilford, 1950, 1959), styles of thinking (Sternberg, 1997) and openness to experience (George & Zhou, 2001). Environmental factors involved in creativity have been studied from a social psychological perspective. These include task autonomy, evaluative feedback and rewards, which are common dependent variables (Baer, 1997, 1998; Hennessey, 2000; Zhou, 1998). In a preschool classroom, these environmental factors largely depend on teachers' conception and delivery of creativity education.

With regard to the environment of creativity, Amabile (1983) suggested that creativity should be best considered not as personality traits or a general ability, but as a behavior resulting from interactions among personal characteristics, cognitive abilities and social environments. She also admitted that the interaction between environment and individual is a complex issue as the environment does not affect everyone identically (Amabile & Gryskiewicz, 1989).

Nakamura and Csikszentmihalyi (2001) adopted the systems model (Csikszentmihalyi, 1996) to examine how the social field influences productive interaction within the individual. The systems theory explains eminent creativity by observing the interrelations among the domain (a body of knowledge, skills and practises), the field (all the individuals who act as gatekeepers to the domain and provide evaluative criteria and opinions about the worth of an idea or a solution) and the person who uses the symbols of the domain to generate a new idea or see a new pattern. In the case of kindergarten children, the teacher tends to act as a gatekeeper to the knowledge domain and to provide criteria to assess the level of each child's creativity. What educators believe along with their attitude towards creativity determine whether a child's creativity will be recognized, encouraged and thus developed, or undermined and stifled.

In Csikszentmihalyi's (1999) discussion on the roles of the field in affecting incidence of creativity, accessibility to economic or financial resources is an important prerequisite. To encourage preschool educators to design and implement a creative curriculum in the classroom, they should gain access to creative teaching and learning materials, or take active participation in creativity training programs. The second issue is attracting creative talents to join the preschool education profession by offering opportunities for experimentation and providing rewards when creativity is observed. The theoretical framework of the present study also adopted the ecological perspective. Early childhood educators, as important gatekeepers for fostering creative development in young children, were invited to give their professional opinion about the influence of these variables.

The domain and field levels of the systems model consider the contextual and environmental influence on creative behavior in young children. The cultural variables (e.g., experience, expectations and lifestyles) as well as the contextual variables (e.g., play opportunities, teacher behavior, parental style, reward, choice and time allowed) play a vital role in creativity.

The model can be used as a theoretical framework to examine the contextual factors of creativity because the dynamic relationships are proposed to be directed primarily through the context. With a recent emphasis being placed on creativity education in Asian Chinese societies, early childhood educators are formally expected to enhance their competence in creative teaching and promote creative learning. However, Bond (1991) commented that the Chinese culture lacked a supportive social environment in which teachers would provide time and encouragement to enhance exploration and experimentation in children's learning. When compared with the western culture offers, the less supportive social framework for creativity has often been used in explaining the lower creativity scores in Hong Kong Chinese across various age groups in Jacquish and Ripple's (1984) study and their lower desirability attached to creativity as important personality characteristics in Rudowicz, Tokarz, and Beauvale (2009) cross-cultural study on Polish and Chinese university students from Beijing, Guangzhou and Hong Kong.

Creativity is a product favoured by the curriculum developers in the educational reforms in Chinese societies, including Hong Kong, China and Taiwan. But the process of enhancing creativity may disturb the Chinese classroom which is often characterized as valuing obedience and discipline. The model provides a constructive framework to tap on teachers' comprehensive perception on how young children's creativity is influenced by cultural, biological, contextual, personality, and cognitive factors, although not every aspect is included in the present study. The present study has been focused on the input of teacher and the school environment which constitutes the contextual and cultural factors affecting young children's creativity. But it does not look into the biological, personality and cognitive factors although these variables of individual differences are also antecedent variables of young children's creativity.

Teachers have a key role in establishing a classroom context facilitative to creativity education. In a recent study on the conception of creativity among 132 in-service and pre-service Greek teachers in primary schools, the majority of the teachers

(98.4%) agreed or strongly agreed that facilitation of student creativity was a responsibility of their role as a teacher, although only 22.3% felt that they were well trained to facilitate student creativity (Kampylis, Berki, & Saariluoma, 2009). The majority of teachers (94.7%) recognized the characteristics of creativity in various domains, but only 6.8% thought that students were offered enough time to manifest their creativity in the classroom. About 84.6% of the teachers agreed that creativity can be developed in every person, but 28.1% disagreed that creativity can be taught. The contradictory views on a teacher's role and the lack of confidence in creativity facilitation, on the manifestations of creativity in multi-domains and lack of classroom time for creativity, and on the universality of creativity and the possibility of creative teaching in schools reveal teachers' complicated, implicit theory of creativity and their scepticism regarding promoting creativity in primary schools.

A similar dilemma has been discussed by Cheng (2004) in describing the changes from traditional education to creativity education in Chinese societies. Looking at the significant curriculum reforms that emphasise creativity education, she has identified several gaps, including gaps between formal and implemented curricula, teachers and teaching methods, the role of teacher development in creativity education and building up a Chinese model of creativity education. The formal curriculum has stated developing students' creativity as an objective. Is creative teaching and learning actually implemented in the classrooms? How do teachers view creativity in education and do they have creativity relevant knowledge and teaching skills to enhance creative learning? How do teachers view their roles in creativity education, a facilitator or a demonstrator or an evaluator? Is there such a Chinese model of creativity in education? The implicit concept of creativity in Chinese is similar or different from the western concept.

1.2. Creativity education in Hong Kong, China and Taiwan

1.2.1. Hong Kong

The development of creativity in students was formally stipulated in *The way forward to curriculum development: Learning to learn* (Curriculum Development Council, 2001) to prepare students to cope with the challenges of the 21st century. Creativity has been acknowledged both as a core value in the personal realm of individuals as well as a generic skill to be developed in the key learning areas in the school curriculum, including Chinese Language, English Language, Mathematics, Science, Technology, Arts, Physical Education, Liberal Studies, General Studies and Personal, Social and Humanities Education.

In an earlier study by Chan and Chan (1999) of 204 Hong Kong primary and secondary teachers' views on creative students, it was found that creative students could be characterized by their continuous questioning, imagination, quickness in responding, high activity and intellectual ability. However, they were also described as arrogant, attention-seeking, opinionated, rebellious and self-centred by their teachers. Although the study was conducted before the curriculum reform in 2001, the findings had shown primary and secondary school teachers held ambivalent views about creative students. Moreover, little research has been carried out to include preschool educators' views on creativity education.

Forrester and Hui (2007) examined the creative teaching techniques of Hong Kong primary school teachers in three different subjects (Chinese Language, General Studies and Mathematics). A moderate correlation was found between teachers' creative teaching behaviors and students' verbal and figural creativity as measured by standardized assessment tools. Regardless of gender, teaching experience and qualifications, Hong Kong teachers displayed creativity-fostering teaching behaviors in classrooms.

In the preschool curriculum guide, creativity is emphasised through play and a child-centred approach that encourages exploration and autonomous learning. Though stipulations for the development of creativity at the preschool level are included in the curriculum reform, little description is provided for how it should be implemented and practised in preschools. Few studies have been conducted to collect views of preschool educators on creativity education in Hong Kong. Some researchers and teacher educators have identified unfavourable teacher beliefs about creativity development in schoolchildren (Chan & Chan, 1999; Cheng, 2004), but others have found evidence that teachers do practise creativity education in primary school classrooms (Forrester & Hui, 2007).

1.2.2. People's Republic of China

According to the document *Initiative to educational reform in the 21st century*, published by the Ministry of Education in China in 1998, one of the major initiatives was to foster creativity. In a knowledge economy, highly innovative technology will be required for core industries. International competitiveness will be benchmarked by educational development, scientific advancement and knowledge innovation. Limiting innovation and competitiveness will mean there will be an insufficient supply of highly creative knowledge labour. One of the strategies for increasing international competitiveness stated in the initiative is to actively develop higher education by ensuring 11% of the student population is admitted to universities that are working to educate highly creative and innovative professionals for the workforce.

Xu and Xu (1997) conducted a survey on creativity research in China. They stated that the first institute for the study of creativity – the Creativity Development Research Institute of China – was established in Changzhou in 1985. The institute was then reorganized and subsumed under the Shanghai Institute of Creative Engineering Research of China in 1989. Since then, Shanghai has been an important city for creativity research and development. Shanghai was therefore chosen as one of the participatory cities.

In their recent review of the contemporary development of early childhood education in China, Zhu and Zhang (2008) recognized that there has been a greater emphasis put on a more creativity-driven curriculum. The National Education Committee (1989) proposed 'Kindergarten Work Regulations and Procedures', which formally require early childhood edu-

cators to encourage child-initiated activity and play in an integrated curriculum that values individual differences. The shift of emphasis towards creativity is a response to the need to strengthen the country's labour force for a global economy (Yeh, Tobin, & Karasawa, 2004). In other words, the emphasis on creativity in early childhood education is an educational policy which teachers are requested to follow. As in Hong Kong, few studies have been conducted in China to examine preschool teachers' views on creativity education.

1.2.3. Taiwan, Republic of China

Fostering creativity is an important goal for educators and policy makers in Taiwan. In the *White paper on creative education* (Ministry of Education, Republic of China, 2003), it was proclaimed that they would rebuild the Republic of China into the Republic of Creativity. Their major reason for promoting creativity is similar to the reasons given by educators and policy makers in the People's Republic of China and Hong Kong. The enhancement of creativity is a national goal of educational policy that represents a proactive response to meet the needs of knowledge-based economies. The white paper also aimed to establish an educational policy that would encourage and support creativity, develop and institute instructional strategies to implement creative education within schools. The policy also extends to a larger community by widening the public's vision and appreciation of a 'creative culture' by arousing their creative interests from an 'ecological perspective'.

In a summary of previous projects on the enhancement of creative education, five major points were made (Ministry of Education, Taiwan, R.O.C., 2006): (1) creative education is implemented when teachers' abilities in instruction, counselling and other areas are enhanced; (2) students' creativity is developed when a multi-disciplinary approach is adopted to inspire and motivate them to learn and create; (3) creativity is encouraged when students live in building spaces and environments that are rich and interesting; (4) creative think tanks are built when creative knowledge is shared and brainstorming platforms are organized; (5) creative study habits are encouraged when useful materials and pedagogy for creative teaching are explored and the quality of creative teachers is promoted.

In a study of eight teachers who had won a Createach Award by the Chinese Creativity Development Association in Taiwan, four different aspects of contextual and personal factors were identified as supporting factors for innovative teaching that integrates technology and creativity. These were environmental, personal, social and curricular aspects (Chan-Lin, Hong, Horng, Chang, & Chu, 2006). Environmental factors included availability of adequate resources, opportunities provided for in-service training, a policy for integrating technology and creative teaching. Personal factors were beliefs about teaching, personal experience of trying new things and interest in the teaching domain. Support from other teachers, attitudes of the principal and supervisor, and resources from the community were classified as the social factors. Successful achievement of curriculum objectives and assessments of student performance were classified as the curricular factors.

Creativity education has been encouraged in multiple ways in Taiwan. The formal legislation of the *White paper on creative education* has required teachers at all levels to promote creativity in the school curriculum. The extensive studies and practises proposed by educators across different levels of education have documented autonomous effort on the part of practitioners, including teachers in early childhood education. Taiwanese teachers are more experienced in both formulating and implementing creativity education when compared with Chinese and Hong Kong teachers.

The present study, which adopts an ecological perspective, sought to compare how teachers in the three Chinese societies, namely Hong Kong, Shanghai and Taiwan, understand the implementation of creativity education in early childhood settings in these societies. This study also sought to assess if significant differences would be found in the perceived importance of contextual factors on creativity education in young children.

The objectives of the present study were (1) to understand teachers' perceptions of the promotion of creativity education among young children in Hong Kong, Taiwan and Shanghai; (2) to compare teachers' perceptions of the ecology of creative teaching and the ecology of creative learning in these three societies; and (3) to identify improvements and barriers to creativity education in these societies.

2. Method

2.1. Participants

A total of 877 early childhood educators (876 women and 1 man) took part in the study: 233 from Hong Kong, 262 from Shanghai and 382 from Taiwan. Among them, 336 were teachers and 411 were administrators and teachers, although 130 from the Shanghai sample did not report their job positions. Participants included teachers and head teachers from both private and public kindergartens and nurseries. Convenience sampling was used. Demographic data, including age and teaching experience, were also collected. Table 1 reports these data.

2.2. Procedures

2.2.1. Hong Kong

Questionnaires were collected from two different sources. Questionnaires with self-addressed and stamped envelopes were sent to all 704 kindergartens in Hong Kong. Approximately 26% (183) of these questionnaires were completed and

Table 1
Demographic description of participants in Hong Kong, Shanghai, and Taiwan.

	Hong Kong (n = 233)	Shanghai (n = 262)	Taiwan (n = 382)
Gender			
Female	233	262	381
Male	0	0	1
Age group			
Below 25 years old	50	53	8
26–30 years old	40	66	81
31–35 years old	37	72	101
36–40 years old	36	31	90
41–45 years old	43	35	66
Above 46 years old	27	5	36
Teaching experience			
Novice (<5 years)	54	68	65
Mid-career (5–15 years)	81	122	200
Veteran (>15 years)	97	68	113

returned. In addition, 50 questionnaires were distributed and collected at a professional training workshop on creativity for early childhood educators. All participants were in-service preschool teachers.

2.2.2. Shanghai

Questionnaires were collected from a teachers' training institute that offered both pre-service and in-service training for teachers. These teachers came from kindergartens and nurseries supported by government funds as well as private organizations. A total of 350 questionnaires were circulated, 270 were returned and 262 completed copies without any missing data were processed in the study.

2.2.3. Taiwan

Questionnaires were circulated to nine national normal universities and institutes that offered summer in-service training programs for preschool educators. A total of 700 questionnaires were sent, 384 were completed and 382 were processed in the study. A response rate of 54.6% was recorded.

2.3. Measures

In this study, we employed the items developed by Chien, Wang, and Chen (2001) to measure teachers' perceptions of the promotion of creativity education in early childhood settings. The construction of the instrument was first based on qualitative data collected from focus group interviews and then descriptive items were extracted from the data to tap on teachers' perception of contextual factors of creativity. The items were derived from focus group interviews with 71 preschool educators in four regional areas of Taiwan (Taipei—the northern part, Taichung—the middle part, Tainan—the southern part and Taitung—the eastern part). These participants included teacher educators who specialized in creativity in early childhood education and preschool teachers who were recognized as creative educators by their teachers and colleagues. The protocol in five main categories, with a total of 14 questions used in these interviews, was listed in Appendix A. These five categories covered the contextual and cultural components of the developmental and ecological model of creativity in young children.

Responses were further divided into the following categories:

1. Core concepts on creativity and its development in the context of early childhood.
2. Curriculum, teaching and learning.
3. School and organizational input.
4. Administration and policy.
5. Ecological dimensions.

The above five aspects were typical contextual factors constituting teachers' perception towards a creative teaching and learning environment. Based on the responses, a questionnaire, consisting the following five parts: demographic data, influential factors of creative performance, factors of creative performance, ecology of creativity education, and barriers and improvements to creativity education, was compiled. A five-point Likert scale was used to rate each item of parts 3, 4 and 5. The higher the mark, the higher was the respondent's level of agreement.

1. Demographic data: gender, age, teaching experience and so forth. The other items, such as the positions and regional areas, were not used for further analysis in the present study.
2. Influential factors of creative performance: parenting style, financial environment, school curriculum, teaching style, innate ability and experience. Respondents ranked factors from 1 to 6, with 1 indicating the most important factor and 6 the least important factor.

Table 2
Intercorrelations between teachers' perception on subscales of creativity education.

	1	2	3	4	5
1. Factors of creative performance	1.00	.15***	.13***	.26***	.43***
2. Ecology of creative teaching		1.00	.66***	−.21***	.21***
3. Ecology of creative learning			1.00	−.18***	.31***
4. Barriers for creativity education				1.00	.15***
5. Improvements for creativity education					1.00

*** $p < .001$.

3. Factors of creative performance: 22 items regarding factors of creative performance were listed in Appendix B; for example, 'Creative thinking and innovative ability are important to my work and life' and 'Young children perform better in creativity when they can make choices in activities'. The Cronbach's alpha of the subscale was .82.
4. Ecology of creativity education: 48 items were included—24 items on the ecology of creative teaching and 24 items on the ecology of creative learning. The items were listed in Appendix B. The reliability coefficient of the subscale of the ecology of creative teaching was .93 while that of creative learning was .94.
5. Barriers and improvements to creativity education: 39 items were composed, 17 belonging to the subscale of barriers and 22 to the subscale of improvements. Sample items included 'pressure from parents who look for accomplishment', 'lack of opportunities for teachers to apply what they learn from creativity training', 'parents understand and accept children's thoughts' and 'increase in teachers' autonomy'. The items were listed in Appendix B. The reliability coefficient (Cronbach's alpha) of the subscale of barriers to creativity education was .89 while that of improvements was .94.

3. Results

The purpose of the present study was to examine commonalities or differences across the three Chinese societies in terms of influential factors of creative performance, teaching and learning ecologies of creativity education, and barriers and improvements to creativity education perceived by early childhood educators.

The results indicated that influential factors of creative performance had a moderately strong correlation with improvements to creativity education, $r(866) = .43$, $p < .001$, and a modestly strong correlation with barriers to creativity education, $r(866) = .26$, $p < .001$. The ecology of creative teaching was strongly associated with the ecology of creative learning, $r(866) = .66$, $p < .001$. The ecology of creative learning also had a moderately strong correlation with improvements to creativity education, $r(866) = .31$, $p < .001$. The barriers to creativity education had negative associations with the ecology of creative teaching, $r(866) = -.21$, $p < .001$, and with the ecology of creative learning, $r(866) = -.18$, $p < .001$. Table 2 shows the intercorrelation coefficients among the various subscales.

The means and standard deviations of the five subscales are shown in Table 3. The data were analyzed with a 3×3 (society × teaching experience) two-way analysis of variance. Significant main effects were found in all the subscales among teachers from the three societies and in two subscales among teachers with different levels of teaching experience. No significant interaction between society and teaching experience was found.

The society was found to be significant, $F(2, 838) = 54.47$, $p < .001$, with teachers in Taiwan scoring significantly higher in influential factors of creative performance (3.86) than teachers in Hong Kong (3.64) and those in Shanghai (3.54). With regard to the importance of factors that contributed to creative performance in young children, it was found that Taiwanese teachers ranked teaching methodology and curriculum design as most important among the influential factors. Shanghai

Table 3
Means and standard deviations of various subscales.

	Influential factors of creative performance	Ecology of creative teaching	Ecology of creative learning	Barriers for creativity education	Improvements for creativity education
Society (S)					
Hong Kong ($n = 225$)	3.64 (.39)	3.64 (.51)	3.73 (.45)	3.20 (.53)	4.35 (.42)
Shanghai ($n = 253$)	3.54 (.36)	3.65 (.60)	4.01 (.52)	3.12 (.66)	4.30 (.43)
Taiwan ($n = 369$)	3.85 (.34)	3.49 (.57)	3.81 (.52)	3.29 (.58)	4.53 (.38)
F	54.47***	12.59***	23.97***	5.58**	24.42***
Teaching experience (T)					
Novice ($n = 181$)	3.64 (.40)	3.36 (.54)	3.73 (.50)	3.26 (.55)	4.37 (.41)
Mid-career ($n = 398$)	3.75 (.37)	3.54 (.54)	3.85 (.49)	3.24 (.59)	4.43 (.41)
Veteran ($n = 268$)	3.69 (.38)	3.78 (.57)	3.91 (.54)	3.16 (.63)	4.41 (.44)
F	1.87	33.58***	9.53***	1.99	.24

** $p < .01$.
*** $p < .001$.

Table 4
Ranking order of influential factors of creative performance in three societies.

Influential factor of creative performance	Hong Kong	Shanghai	Taiwan
Parenting style	1	1	6
Family financial status	3	6	4
Curriculum design	5	5	1
Teaching methodology	6	2	2
Children's innate ability	4	3	3
Children's experience	2	4	5

teachers ranked parenting style and teaching methodology as the two most important factors while Hong Kong teachers ranked parenting style and children's experience as the two most important factors. Table 4 lists the ranking order.

The society was also found to be significant, $F(2, 838) = 12.59$, $p < .001$, with teachers in Shanghai (3.65) and Hong Kong (3.64) having significantly higher scores for the ecology of creative teaching than those in Taiwan (3.49). Shanghai and Hong Kong teachers perceived a more favourable ecology of creative teaching.

A significant societal effect was found with regard to the ecology of creative learning, $F(2, 838) = 23.97$, $p < .001$, with Shanghai teachers scoring significantly higher (4.01) than Taiwanese teachers (3.82) and Hong Kong teachers (3.73). Shanghai teachers indicated a more favourable perception of the ecology of creative learning than did Taiwanese and Hong Kong teachers.

A similarly significant effect was found with regard to barriers to creativity education, $F(2, 838) = 5.58$, $p < .01$, with Taiwanese teachers scoring higher (3.29) than Hong Kong teachers (3.20) and Shanghai teachers (3.12). Taiwanese teachers perceived more barriers in their implementation of creativity education.

A significant societal effect was again found with regard to improvements to creativity education, $F(2, 838) = 24.42$, $p < .001$, with Taiwanese teachers scoring significantly higher (4.53) than Hong Kong teachers (4.35) and Shanghai teachers (4.30). Taiwanese teachers agreed to a greater extent that there were improvements to creativity education than did Hong Kong and Shanghai teachers.

Teaching experience was found to be significant, $F(2, 838) = 33.58$, $p < .001$, with veteran teachers scoring significantly higher for the ecology of creative teaching (3.78) than did teachers in mid-career (3.54) and novice teachers (3.36). Teaching experience was again found to be significant, $F(2, 838) = 9.53$, $p < .001$, with veteran teachers having higher scores for the ecology of creative learning (3.91) than did teachers in mid-career (3.85) and Hong Kong novice teachers (3.73).

4. Discussion

The present study attempted to look into the contextual and cultural factors influence the development of young children's creativity which constitute as essential elements in ecological model of creative potential in young children. The recent focus on creativity education in Chinese societies is driven mainly by the need to survive and excel in the knowledge economy, although many scholars have pointed out the incompatibility of creativity education and traditional Chinese culture, which values conformity and an authoritarian style of teaching (Chan & Chan, 1999; Cheng, 2004; Ng & Smith, 2004; Wu, 2004). The nurturing of creativity is facilitated by a supportive environment which encourages exploration and values autonomy and intrinsic motivation (Amabile, 1996; Csikszentmihalyi, 1996; Lucas, 2001). A paradoxical result of implementing creativity education among early childhood educators in Chinese societies may lie in the following situation: the more teachers feel obliged to apply creativity education because of external demands, the less autonomy they can experience and the less intrinsically motivated they will be to develop creativity education (Ng & Smith, 2004). Although preschool educators in Hong Kong, Shanghai and Taiwan have all started to promote creativity education, they may have different perceptions of which influential factors contribute to creativity development and perceive creative teaching and creative learning differently, based on their different conceptions of creativity (Kampylis et al., 2009) and experience of creative teaching in school (Davis, 2006).

Beghetto (2009) highlighted the search of unexpected moments of creativity in the classrooms. Teachers have often missed these micromoments by habitually neglecting or dismissing those unexpected responses from students to their questioning in the classroom. Teachers may have been too occupied in getting the targeted responses from students and thus they tend to prefer expected ideas and discourage further exploration of unexpected or creative ideas. The customary neglect or discouragement in expressing unusual and creative ideas to a question is particularly impeding young children to develop their creativity. Tegano, Moran, and Sawyers (1991) suggested young children's creativity could be operationalized in the fluency of ideas. Teachers' confidence in the academic knowledge, and their tolerance of unique and unexpected ideas and ability in building upon students ideas are contextual improvements for developing creativity in early childhood education. Whether teachers from Shanghai, Hong Kong and Taiwan are also aware of their supportive roles in enhancing preschool children's creativity become a crucial sociocultural factor.

Taiwanese teachers were found to be the most knowledgeable of the three groups of teachers about the influential factors of creative performance. They also have more ideas about barriers and improvements to creativity education. They ranked teaching methodology and curriculum design as the two most important factors of children's creative performance whereas parenting style and children's experience were ranked as the least important factors. The dilemma of Taiwanese teachers in

promoting creativity education seems to lie in their relatively high level of knowledge about influential factors, as well as barriers and improvements to creativity education versus their relatively low scores in perception of the ecological factors related to creative teaching. The knowledge about creativity in education and perception of a less facilitative environment for creative teaching have posed a challenge and created a tension among these teachers.

The tensions of fostering creativity in schools described by Craft (2005) are demonstrated by the Taiwanese teachers in this study. Their professionalism has urged them to set high expectations for the creativity of every learner, but the professional ethos of building up a creative culture in the school's teaching and learning environment is less controllable by individual teachers. Their perception of least favourable conditions for creative teaching echoes perfectly their views on curriculum design and teaching methodology. The more knowledge they have about factors related to creativity education, the higher scores they give to curriculum design and teaching methodology. These views may reflect that teachers have been caught in a dilemma. On the one hand, they have adequate knowledge about creativity education; for example, about ways of encouraging creativity in the classroom and accepting children's creative behaviors in schools. On the other hand, however, these teachers may still feel inadequate in their role of enhancing creativity development in children because they are highly aware of the barriers to creativity education, such as those related to family matters beyond the school's control, for instance parental rearing style and a creative family environment. Similar results were also found in Kampylis et al. (2009) study on Greek teachers. Teachers have recognized the importance of their roles in developing schoolchildren's creativity, but they are not confident in achieving this educational goal. To empower Taiwanese teachers to apply their creative competence more adequately, more home-school cooperation and collaboration may need to be developed. However, Davis (2006) considers that being dissatisfied with the status quo in educational organizations is indeed a building block to creativity. Csikszentmihalyi (1999) also recognizes that an existing conflict is more likely to generate incidence of creativity.

Teachers in Shanghai perceive the ecology of creative teaching and the ecology of creative learning more favourably than Taiwanese and Hong Kong teachers do. They seem to balance the importance of school and home, as they ranked parenting style and teaching methodology as the two most important factors contributing to creative performance in young children. They are particularly knowledgeable in making the ecologies of creative teaching and creative learning work well in their schools. They showed enthusiasm about providing a favourable school environment for both teachers and children in the preschool setting. Their challenge in promoting creativity education may include their relatively low level of knowledge about barriers and improvements to creativity education, although they scored highest for the ecologies of creative teaching and creative learning. They also scored lowest in identifying influential factors of creative performance among the three groups of teachers. More theoretical and practical knowledge and strategies for promoting creativity education for young children must be developed in teacher training programs. Such knowledge and skills will enable teachers to overcome barriers to creativity education they may encounter in the future. However, the homogeneous school systems and emphasis on group conformity in the Chinese education system and school culture may have inhibiting effects on innovation in schools (Davis, 2006).

Hong Kong teachers scored high for the ecology of creative teaching but scored the lowest for the ecology of creative learning. They ranked parenting style and children's innate ability as the two most important factors but curriculum design and teaching methodology as the two least important factors. Their perception is exactly a mirror image of that of teachers in Taiwan. The symbiotic relationship between the family and the school in having high expectations of children as described by Kim (2005) is somehow not perceived by Hong Kong teachers. The dilemma for Hong Kong teachers in promoting creativity education may lie in their beliefs in influential factors of creative performance being parenting style and children's innate ability and their relatively unfavourable perception of creative learning, as they scored lowest in the ecology of creative learning among the teachers in the three societies. They attributed children's creative development more to the familial factors. They also scored lowest for the ecological factors of creative learning. It may imply there is little teachers and educators can contribute to enhance creative development in young children. These cognitive appraisals of implementing creativity education in preschool settings may seem less favourable. The disparity between Hong Kong teachers and Taiwanese and Chinese teachers may be explained by the increasing pressure on teachers to be accountable to implement creativity education (Davis, 2006; Rao, Koong, Kwong, & Wong, 2003). Implementation of creativity education in kindergartens may require teachers to adapt, design or develop school-based teaching and learning materials, but Hong Kong teachers have reported that they were not qualified enough to do so on their own (Li, 2006). The feeling of incompetence may reflect a lack of self-efficacy, although all the teachers have obtained qualifications formally required by the Education Bureau. More extensive and professional training in designing creative activities and enriching the school curriculum may help these teachers to strengthen their professional roles in developing children's creativity in schools.

Regarding teaching experience, it is interesting to find that veteran teachers have a more favourable perception of both the ecology of creative teaching and the ecology of creative learning. These experienced teachers tend to appreciate the significant increase in teaching and learning resources to a greater extent than less experienced teachers. Their rich experience and skills in curriculum adaptation and design may indeed be great assets for schools. Kampylis et al. (2009) also found that in-service teachers have a more receptive view and agree more strongly that creativity is crucial for personal and social progress than pre-service teachers do.

The present study does not make any attempt to examine the causal relationships among the variables because other factors might also exert influence on teachers' perception of creativity education, such as their implicit theory of creativity (Runco, 1990) and personality characteristics of creativity among individuals (Rudowicz & Hui, 1997). Moreover, the present

study does not look into the biological, cognitive and personality factors of young children's creativity although these are also important aspects in understanding young children's creativity.

The findings of the study cannot be generalized to educators of other grade levels because only kindergarten teachers participated in the study.

In conclusion, the effectiveness of promoting creativity in early childhood education largely depends on the contextual factors in Chinese societies. Hong Kong, Shanghai and Taiwan have all established policies for creativity education, but perceptions of the ecologies of creative teaching and creative learning are different among teachers from these three societies. Their perceptions of the contributing factors of creative development in young children affect their views about the barriers and improvements to creativity education. Taiwanese teachers put great emphasis on curriculum design and teaching methodology. They strongly endorse the roles of educators; however, they do not perceive that they are in a context highly facilitating creative teaching. Their dissatisfaction can be perceived positively as building blocks to creativity education (Davis, 2006). The Taiwanese context is likely to encourage the generation and the acceptance of creativity in preschools because both teachers are highly aware of an existing conflict between external demand for creativity in the society and internal limitations within the teaching profession (Csikszentmihalyi, 1999). Hong Kong teachers tend to attribute creative development more to the family factors than the school factors. Such attribution may have weakened their determination in promoting creativity education. This attribution is focused on the individual level of the systems theory of Csikszentmihalyi (1999). It implies that Hong Kong teachers are not yet ready for introducing systematic change to the field in enhancing young children's creativity. Kindergarten teachers in Shanghai have the most favourable view on their provision of a creative learning context for young children. According to the systems theory of Csikszentmihalyi (1999), teachers in Shanghai are aware of factors both at the individual and the field levels in affecting teachers' creativity and young children's creativity. However, they do not give strong views on barriers and improvements to creativity education. They may seem too ready to accept the status quo, which may not be a good indicator of a creative school context. Teachers in Asian Chinese societies need to ask themselves reflectively about their conceptions of creativity and the contributing factors of optimal development of creativity in students as well as the importance of teacher initiative and school-based development (Cheng, 2004; Rudowicz, 2004).

Appendix A.

Questions asked in focus group interviews of Taiwanese teachers by Chien, Wang, and Chen (2001).

1. What is creativity?
2. What are the facilitators of creativity in young children?
3. What are the inhibitors of creativity in young children?
4. Describe a creative teacher.
5. How do you view creativity in young children? What are the indicators of creativity in them?
6. Will you make creativity in young children an important objective of teaching and learning? Why?
7. How do you evaluate a creative behavior or a product? What kind of evaluation method is appropriate and reasonable?
8. What are the barriers in promoting creativity education for early childhood educators?
9. What are the areas for improvements in promoting creativity education in early childhood education?
10. How do we enhance creative teaching in teachers?
11. How do we nurture creative thinking in students?
12. How can school administrators do to enhance creativity in teachers and students?
13. How can the government help to foster creativity in teachers and students?
14. What are the available resources in Taiwan society for developing creativity in early childhood education?

Appendix B.

Items of teacher perception of creative performance.

1. Creative thinking and innovative ability are important in learning and development of young children.
2. Teachers' belief in young children's competence is helpful to their development in creativity.
3. Creative thinking and innovative ability are important to my work and life.
4. Young children perform better in creativity when they can make choices in activities.
5. Demand in unified teaching and learning will hinder creative development in young children.
6. Children have higher creativity in home environment which provides opportunities to make choices.
7. The more social and cultural resources children have, the higher their creativity is.
8. Children perform more creatively in familiar tasks.
9. Creativity can be nurtured.
10. Children who are overly protected display lower creativity.
11. The lower value parents attach to creativity, the lower creativity their children display.

12. Young children have high creativity holistically speaking.
13. Provision of ready made toys and materials will hinder children's creativity development.
14. The more orders parents give, the lower creativity their children have.
15. Too much learning contents will prevent children from developing their creativity.
16. Over-emphasis on rules and regulations will hinder children's creativity development.
17. Parents who emphasise reading, writing and arithmetic too much usually have children who are less creative.
18. Children from a disciplined family will have lower creativity.
19. The more time children watch television, the lower their creativity is.
20. Parents who are busy with work and spend less time playing with their children will have children who are less creative.
21. As a whole, children who live in the cities have higher creativity than those living in rural areas.
22. Creativity is born by nature and it is difficult to change it.

Items of teacher perception of ecology of creative teaching:

1. What I am doing matches with my professional knowledge and abilities.
2. In curriculum and teaching, I have professional autonomy.
3. My school allows every teacher to teach differently.
4. My work is full of challenges.
5. I receive encouragements from the school to arouse my motive in creativity.
6. I have a lot of opportunities to collaborate with my colleagues in my work.
7. My work provides me with a lot of opportunities to interact with other teachers.
8. My work has helped me learn continuously and discover new knowledge.
9. Even though there are different opinions, there are opportunities for expression and development.
10. My new teaching ideas and methodology often gain recognitions from others.
11. My school emphasise teachers' individual and team productivity.
12. When I have new ideas, I often get opportunity to work them out.
13. I often brainstorm with others in meetings.
14. My colleagues support my innovative and new ideas.
15. My school welcomes innovative teaching methodology.
16. School structure and policy encourage teachers to be creative in teaching.
17. I have professional exchange with teachers in other schools.
18. I can easily gain access to teaching equipment and resources.
19. I seldom experience limitations for creative teaching in social environment.
20. Administrators have leadership to support creative teaching of teachers.
21. I have close contacts with professional bodies in early childhood education.
22. I am often encouraged to develop educational research, new teaching methods and materials.
23. I was awarded for my innovation in teaching.
24. I often worry about failure and uncertain outcomes, so I do not try new ideas.

Items of teacher perception of ecology of creative learning:

1. Young children feel glad about their creativity and creative products.
2. Young children get praises from teachers about their creativity.
3. The class welcomes creative behaviors in children.
4. Teachers encourage and listen attentively to children's new ideas.
5. Teachers emphasise individual and team products in young children.
6. Young children have a lot of opportunities to collaborate with others in the learning process.
7. Teachers have leadership to support innovative behaviors in young children.
8. Young children are often encouraged to use different methods to solve problems.
9. Young children often have opportunities to brainstorm with others in groups.
10. Young children learn continuously and discover new knowledge in individual and team work.
11. The innovative ideas of young children often get peer support.
12. The learning environment stimulates the creative motive and behaviors in young children.
13. Children take part in activities mostly matched with their interest and experience.
14. The classroom routine, schedule and space design support innovative behaviors in children.
15. Young children have plenty of opportunities to interact with one another in a school day.
16. Even if there are different opinions, young children show acceptance.
17. Young children have a lot of chances to make choices in their activities.
18. There are good channels for young children to share their interest and strengths with one another.
19. There are opportunities for young children to take challenges in the learning processes.

20. There are enough library materials in the classroom to support exploratory learning of young children.
21. Young children are often encouraged to explore the learning topics and new ways of doing things.
22. Young children can get equipment and resources for their creative learning.
23. The social environment poses few limitations for innovative behaviors in young children.
24. Young children often worry about failure and uncertain outcomes and do not try out new ideas.

Items of teacher perception on barriers to creativity education:

1. Pressure from parents which demand outcomes.
2. Lack of creative evaluation methods in early childhood education.
3. Routine training required in kindergartens.
4. Lack of creative experience for creative learning and teaching.
5. The inflexibility of educational policy.
6. Time pressure on teachers for administrative tasks.
7. Lack of creativity in teacher education.
8. Pressure on keeping the teaching progress.
9. Over-emphasis on intellectual development in early childhood education.
10. Lack of teaching and learning materials.
11. Classroom observation of creative teaching and learning among kindergartens.
12. Difficulty in striking a balance between creative teaching and learning, and classroom management.
13. Peer pressure among teachers.
14. Lack of knowledge and skills in creativity among teachers.
15. Reluctance to change among teachers.
16. Creative children often disadvantaged in the transition from kindergarten to primary schools.
17. Lack of creativity in kindergarten curriculum.

Items of teacher perception on improvements for creativity education:

1. Provision of opportunities and time for students to think independently.
2. Enriching and diversified learning resources.
3. Parents providing enriching life experience for young children.
4. Permission to various forms of expressions.
5. Parents understanding and accepting children's ideas.
6. Cultivating a creative and open family atmosphere.
7. Encouraging children to be responsible learners.
8. Providing various learning experiences.
9. Providing play materials and space.
10. Providing more activity space.
11. Providing interest-based curriculum.
12. Open and autonomous learning environment.
13. Encourage teachers to teach creatively.
14. Providing opportunities for collaborative learning.
15. Providing opportunities for teachers to enhance professional autonomy.
16. Teachers taking active roles in student learning.
17. A flexible time schedule.
18. Parenting taking active roles in children learning.
19. Develop multiple evaluation tools.
20. Providing non-standardized questions and answers.
21. Parents expressing fewer demands on academic achievement and curriculum contents.
22. Reduce use of supplementary exercises books.
23. Avoid subject-based teaching in kindergartens.
24. Reduce teaching contents.

References

Amabile, T. M. (1983). Social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, *45*, 357–377.
Amabile, T. M., & Gryskiewicz, N. (1989). The creative environment scales: The work environment inventory. *Creativity Research Journal*, *2*, 231–254.
Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview Press.
Baer, J. (1997). Gender differences in the effects of anticipated evaluation on creativity. *Creativity Research Journal*, *10*, 25–31.
Baer, J. (1998). Gender differences in the effects of extrinsic motivation on creativity. *Journal of Creative Behavior*, *32*, 18–37.
Beghetto, R. A. (2009). In search of the unexpected: Finding creativity in the micromoments of the classroom. *Psychology of Aesthetics, Creativity and the Arts*, *3*(1), 2–5.

Bond, M. H. (1991). *Beyond the Chinese face: Insights from psychology*. New York, NY: Oxford University Press.
Chan, D. W., & Chan, L. K. (1999). Implicit theories of creativity: Teachers' perception of student characteristics in Hong Kong. *Creativity Research Journal*, *12*(3), 185–195.
Chan-Lin, L. J., Hong, J. C., Horng, J. S., Chang, S. H., & Chu, H. C. (2006). Factors influencing technology integration in teaching: A Taiwanese perspective. *Innovations in Education and Teaching International*, *43*(1), 57–68.
Cheng, V. M. Y. (2004). Progress from traditional to creativity education in Chinese societies. In S. Lau, A. N. N. Hui, & G. Y. C. Ng (Eds.), *Creativity: When east meets west* (pp. 137–167). Singapore: World Scientific Publishing.
Chien, C. Y., Wang, Y. Y., & Chen, S. F. (2001). *Creativity of preschool children: Formulation of educational policy*. Taiwan, R. O. C.: Ministry of Education. (A technical report submitted to Ministry of Education Project on White paper on Creative Education: Establishing a Republic of Creativity (R.O.C.) for Taiwan).
Craft, A. (2005). *Creativity in schools: Tensions and dilemmas*. London: Routledge.
Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. HarperCollins: New York, NY.
Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 313–335). New York, NY: Cambridge University Press.
Curriculum Development Council. (2001). *The way forward to curriculum development: Learning to learn*. Hong Kong: Government Printer.
Curriculum Development Council. (2006). *Guide to the pre-primary curriculum*. Hong Kong: Curriculum Development Council of HKSAR.
Davis, S. H. (2006, November/December). Unleashing creativity in your schools. *Leadership*, *8–10*, 34–38.
Forrester, V., & Hui, A. (2007). Creativity in the Hong Kong classroom: What is the contextual practice? *International Journal of Thinking Skills & Creativity*, *2*(1), 30–38.
George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: An interactional approach. *Journal of Applied Psychology*, *86*(3), 513–524.
Guilford, J. P. (1950). Creativity. *American Psychologist*, *5*, 444–454.
Guilford, J. P. (1959). Three faces of intellect. *American Psychologist*, *14*, 469–479.
Hennessey, B. A. (2000). Rewards and creativity. In C. Sansone, & J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 55–78). San Diego, CA: Academic Press.
Jacquish, G. A., & Ripple, R. E. (1984). A life-span development cross-culture study of divergent thinking abilities. *International Journal of Aging and Human Development*, *20*, 1–11.
Kampylis, P., Berki, E., & Saariluoma, P. (2009). In-service and prospective teachers' conceptions of creativity. *International Journal of Thinking Skills & Creativity*, *4*(1), 15–29.
Kim, K. H. (2005). Learning from each other: Creativity in East Asian and American education. *Creativity Research Journal*, *17*(4), 337–347.
Li, H. (2006). School-based curriculum development: An interview study of Chinese kindergartens. *Early Childhood Education Journal*, *33*(4), 223–229.
Lucas, B. (2001). Creative teaching, teaching creativity and creative learning. In A. Craft, B. Jeffrey, & M. Leibling (Eds.), *Creativity in education* (pp. 35–44). London: Continuum.
Ministry of Education of the People's Republic of China. (1998). *Initiative to educational reform in the 21st century*. Retrieved November 14, 2006, from Ministry of Education of the People's Republic of China via http://www.moe.edu.cn/edias/website18/infor3337.htm (in Chinese).
Ministry of Education Taiwan, R. O. C. (2003). *White paper on creative education: Establishing a Republic of Creativity (R. O. C.) for Taiwan*. Taiwan, R. O. C.: Ministry of Education.
Ministry of Education Taiwan, R. O. C. (2006). *Be creative: Journey into the R. O. C.—"Republic of Creativity"*. Taiwan, R. O. C.: Ministry of Education.
Nakamura, J., & Csikszentmihalyi, M. (2001). Catalytic creativity: The case of Linus Pauling. *American Psychologist*, *56*(4), 337–341.
National Education Committee of China. (1989). *Kindergarten work regulations and procedures*. Retrieved July 17, 2009 from. http://www.moe.gov.cn/edoas/website18/22/info7922.htm
Ng, A. K., & Smith, I. (2004). Why is there a paradox in promoting creativity in the Asian classroom? In S. Lau, A. Hui, & G. Ng (Eds.), *Creativity: When east meets west* (pp. 87–112). Singapore: World Scientific Publishing.
Rao, N., Koong, M., Kwong, M., & Wong, M. (2003). Predictors of preschool process quality in a Chinese context. *Early Childhood Research Quarterly*, *18*(3), 331–350.
Rhodes, M. (1961). Analysis of creativity. *Phi Delta Kappan*, *42*, 305–310.
Rudowicz, E. (2004). Creativity among Chinese people: Beyond western perspective. In S. Lau, A. Hui, & G. Ng (Eds.), *Creativity: When east meets west* (pp. 55–86). Singapore: World Scientific Publishing.
Rudowicz, E., & Hui, A. (1997). The creative personality: Hong Kong perspective. *Journal of Social Behavior and Personality*, *12*(1), 139–157.
Rudowicz, E., Tokarz, A., & Beauvale, A. (2009). Desirability of personal characteristics associated with creativity: Through the eyes of Polish & Chinese university students. *International Journal of Thinking Skills & Creativity*, *4*(2), 104–115.
Runco, M. A. (1990). Implicit theories and ideational creativity. In M. A. Runco, & R. S. Albert (Eds.), *Theories of creativity* (pp. 234–252). Thousand Oaks, CA: Sage Publications.
Sternberg, R. J. (1997). *Thinking styles*. New York, NY: Cambridge University Press.
Tegano, D. W., Moran, J. D., III, & Sawyers, J. K. (1991). *Creativity in early childhood classrooms*. Washington, DC: National Education Association Professional Library.
Torrance, E. P. (1974). *Torrance tests of creative thinking: Norms-technical manual*. Princeton, NJ: Personnel Press.
Wu, J. J. (2004). Recognizing and nurturing creativity in Chinese students. In S. Lau, A. Hui, & G. Ng (Eds.), *Creativity: When east meets west* (pp. 169–200). Singapore: World Scientific Publishing.
Xu, F., & Xu, F. (1997). Letter from China: A survey of creativity research. *Creativity and Innovation Management*, *6*(4), 249–253.
Yeh, H., Tobin, J. J., & Karasawa, M. (2004). The Chinese kindergarten in its adolescence. *Prospects: Quarterly Review of Comparative Education*, *34*(4), 457–469.
Zhou, H., & Kao, Z. M. (1999). *Creativity education: A comprehensive book*. Beijing, China: Economic Daily. (in Chinese)
Zhou, J. (1998). Feedback valence, feedback style, task autonomy, and achievement orientation: Interactive effects on creative performance. *Journal of Applied Psychology*, *83*(2), 261–276.
Zhu, J. X., & Zhang, J. (2008). Contemporary trends and developments in early childhood education in China. *Early Years*, *28*(2), 173–182.