

## CREATIVE DESIGN ON CELADON GOURD-SHAPED EWER WITH LOTUS DESIGN IN UNDERGLAZE COPPER (NATIONAL TREASURES NO. 133 IN KOREA)

**Kwang Cheol Park**

Dept. of Industrial Design/Dong-eui University  
S. KOREA  
kcpark@deu.ac.kr

**Man Kyu Huh\***

Food Science and Technology Major /Dong-eui University, S. KOREA  
mkhuh@deu.ac.kr

### ABSTRACT

Creative classes are a very important subject for students who learn design. We selected the celadon gourd-shaped ewer with lotus design in underglaze copper (National treasures No. 133 in Korea) to evaluate what (creative thought) they learned through classes. There is a little frog sitting on the handle. An unknown potter pierced the eye part to make it a loop. It's a creative and fantastic idea. Loop or ribbon shapes can be seen as one of the common ways at the time. Students were presented the creative elements of this ewer to discuss with each other. For 16 items, the shape painting area was 0.86 points before the creative learning, the highest among ten points overall. The next was 0.81 for usability. After the creative learning, the novelty area was 0.97 points, the highest among ten points overall. The next was 0.92 for originality. The students' creative assessment of the work was raised by about 5 percent after the education was conducted.

**Keywords:** Celadon gourd-shaped ewer with lotus design in underglaze copper (National treasures No. 133 in Korea), creative classes.

### INTRODUCTION

The 2015 edition of the Global Creativity Index, or GCI is a broad-based measure for advanced economic growth and sustainable prosperity based on the 3 Ts of economic development - talent, technology, and tolerance (Florida et al., 2015). It rates and ranks 139 nations worldwide on each of these dimensions and on our overall measure of creativity and prosperity. Global creativity, as measured by the GCI, is closely connected to the economic development, competitiveness, and prosperity of nations. Although South Korea is 50th leads in talent, South Korea leads in technology. One of the things that gives you a glimpse of this Korean talent is the Goryeo celadon. It is exciting to look for legacies of ancient forebears. Catching up to their vestiges one can see their thoughts and hear their breath. The celadon of Goryeo Dynasty is one of the most famous cultures assets, which is also proudly exhibited any country in the world. Goryeo (918-1392) was a devout Buddhist state. Celadon, regarded as the flower of ceramic art, comes in a variety of vessel types including daily wares such as bowls, dishes, cups, pitchers and boxes, and ritual wares like cups and saucers and incense burners (Cultural Heritage Administration, 2009). They are decorated with various techniques, including incising, carving, inlay and underglaze iron painting. What is the most creative piece of Goryeo celadon? Different people have different tastes, so there may be differences, but we are thought to be the celadon gourd-shaped ewer with lotus design in underglaze copper (national treasures no. 133 in Korea). The ewer (height: 33.2cm bottom diameter: 11.4cm), which dates back to the mid-Goryeo Period, has a gourd-shaped body whose surface is covered with lotus leaves (Cultural Heritage Administration of Korea, 2006). Cultural Heritage Administration of Korea (CHAK) explains: Its lid looks like a

flower bud. Its neck is adorned with lotus leaves as well as the figure of a child embracing a lotus bud. Its handle looks like a slightly bent scrolling vine with the figure of a frog seated at the top. Its spout looks like a rolled lotus leaf. The technique of adorning blue celadon with cinnabar was used in the early 12th Century, but artworks ostentatiously adorned with cinnabar-made patterns were thought to have appeared for the first time only after the 13th Century. This piece, showing the cinnabar-adorned edges and veins of lotus leaves, was unearthed from the tomb of Choe Hang in Ganghwa, Gyeonggi-do. The piece was presumed to date back to the reign of King Gojong (r.1213-1259) of the Goryeo Dynasty. Its splendid cinnabar color makes it a precious material for those studying Goryeo Celadon. As art teachers, we want our students to be capable and confident creative thinkers. We know it's important to guide our students toward developing the skill set needed to do the same.

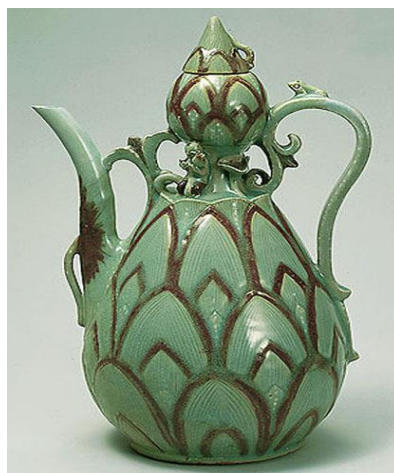
Dewey (1990a, 1990b) believes that every student has unused potential and the role of the teacher is to create certain conditions in order for the student's abilities to develop and grow for the good of the student and for the community as a whole (Thorkelsdóttir, 2018). This is in line with education specialist Elliot Eisner(2002). Scholarly attention to creativity and innovation has increased dramatically over the past 28 years (Amabile & Pratt, 2016).

This study used the parameter of the creativity classes to determine if there is an impact in students' thought changes during Industrial Design I in the first semester of the sophomore at D University in B City, the Republic of Korea.

## **METHODOLOGY**

### **Subjects and application to practical classes**

This study was carried out in three stages as follows. First, we evaluated what (creative thought) they learned through classes. Second, we showed a lot of ceramic paintings. We selected the most creative pottery among them. The selected ewer was this celadon gourd-shaped ewer with lotus design in underglaze copper (Fig. 1). Students were presented the creative elements of this ewer to discuss with each other. we evaluated the degree of artistry and creativity in the class activities (Table 1). Lastly, we assessed the ability of students to write creative self-inspection tools (Table 2). Questionnaire response rates are shaped by the research topic, the nature of the sample, and the quality and appropriateness of questionnaire design as much as by the mode of distribution. Table 2 provided examples of three types of rating scales: agreement, satisfaction, and frequency (Watkins et al., 2012).



**Figure 1. Celadon Gourd-Shaped Ewer With Lotus Design In Underglaze Copper  
(National treasures No. 133 in Korea)**

**Table 1. Evaluation items for Celadon Gourd-Shaped Ewer With Lotus Design In Underglaze Copper**

Category	Evaluation element
Social value	S-1. Does the material of nature have been carefully observed and added to the molding elements?
	S-2. Are the forming elements and principles well executed?
	S-3. Are the topics intended by the author and the background of the times well reflected?
Artistic value	A-1. What is your view when evaluating works based on various aesthetic values?
	A-2. Are the standards of value judgment satisfied with the completeness of the work?
	A-3. Are the standards of value judgment satisfied with the performance of the work?
Creativity	C-1. What is creativity in the ewer?
	C-2. This work is creative and I think back when I'm working
	C-3. Is expression creative?
	C-4. Are the subjects or characters creativity?

**Table 2. Scoring creative self-inspection tools**

Thought	Category	Score
Thought characteristics	Sensitivity	① ② ③ ④ ⑤
	Challenges	① ② ③ ④ ⑤
	Flexibility	① ② ③ ④ ⑤
	Fluency	① ② ③ ④ ⑤
Thought mechanism	Analogy	① ② ③ ④ ⑤
	Abstraction	① ② ③ ④ ⑤
	Intuition	① ② ③ ④ ⑤
	Shape painting	① ② ③ ④ ⑤
	Attention	① ② ③ ④ ⑤
	Purpose	① ② ③ ④ ⑤
	Reverse thinking	① ② ③ ④ ⑤
Thought result	Diverting positions	① ② ③ ④ ⑤
	Novelty	① ② ③ ④ ⑤
	Originality	① ② ③ ④ ⑤
	Orthodoxy	① ② ③ ④ ⑤
	Usability	① ② ③ ④ ⑤

**Table 3. Examples of different rating scales**

<b>Agreement: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree</b>		
<b>Current performance</b>	<b>Survey question</b>	<b>Desired or optimal performance</b>
① ② ③ ④ ⑤	Do you think that design is creative?	① ② ③ ④ ⑤
<b>Satisfaction: 1 = Very dissatisfied; 2 = Dissatisfied; 3 = Neutral; 4 = Satisfied; 5 = Very satisfied</b>		
① ② ③ ④ ⑤	Do you think that design has reached the desired level?	① ② ③ ④ ⑤
<b>Frequency: 1 = Very often; 2 = Often; 3 = Occasionally; 4 = Sometimes; 5 = Rarely</b>		
① ② ③ ④ ⑤	How often do you consider that artistry when you design?	① ② ③ ④ ⑤

**Research limitations**

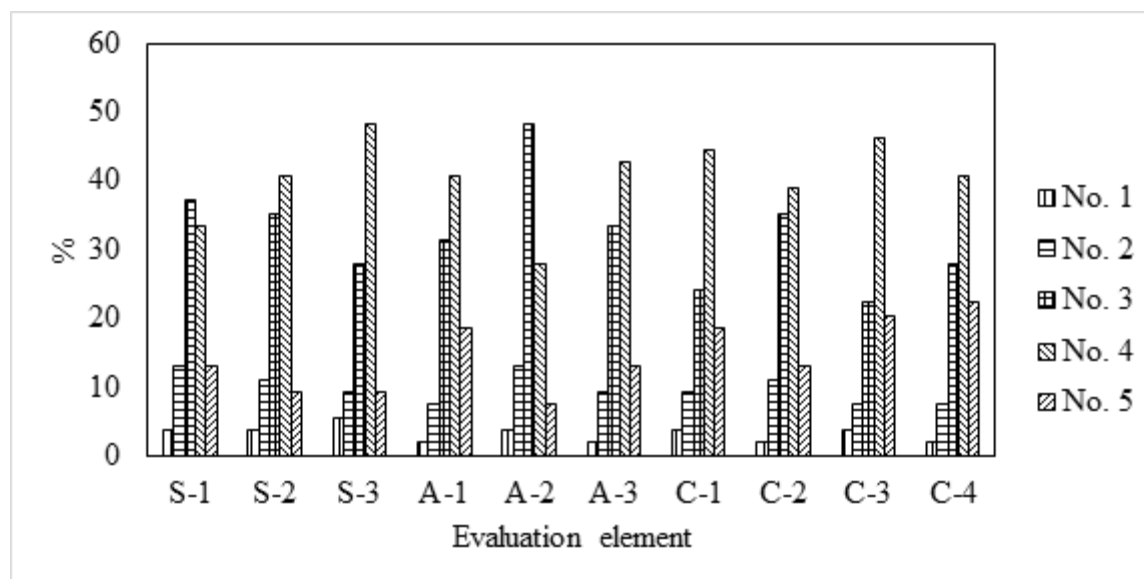
Students who did not complete the questionnaire or who did not submit a report, either a single item or no answer, were excluded from the analysis.

**Statistical analyses**

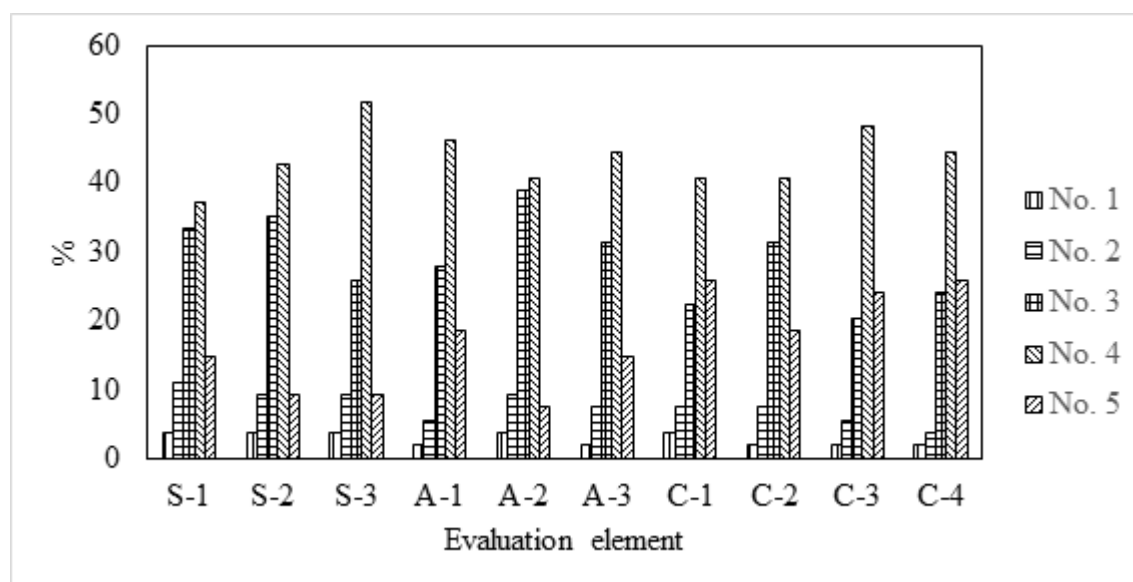
Statistical analysis of data is a key step in every scientific researches. Data were analyzed using the SPSS version 21 (SPSS Inc, Chicago, IL) statistical software package (IBM Corp, 2012). The results were submitted to an ANOVA with an F test, and when relevant, the Greenhouse-Geisser (1959) was used to assess the change in a continuous outcome with three observations across time or within-subjects. Means and standard deviations should be reported for each observation of the outcome with Greenhouse-Geisser corrections.

**RESULTS**

In this study, we investigated how students' perceptions changed with the passage of time. These are the results of students' responses before and after learning about creativity. The results for the assessment before the creative learning was conducted were shown in Figure 2. The total is ten points for 16 items. For 16 items, the shape painting area was 0.86 points, the highest among ten points overall. The next was 0.81 for usability. The results for the assessment after the creative learning was conducted were shown in Figure 3. For 16 items, the novelty area was 0.97 points, the highest among ten points overall. The next was 0.92 for originality. The differences between the mean scores of pre-test and post-tests for 'creative classroom' were calculated separately to see if there was any difference in the results. There was not shown a statistically significant difference ( $p > 0.01$ ).



**Figure 2. The frequencies (%) of students' responses before learning about creativity.** ■: Score 1, ■: Score 2, ■: Score 3, ■: Score 4, ■: Score 5. Symbols (S, A, and C) are same as Table 1.



**Figure 3. The frequencies (%) of students' responses after learning about creativity.** ■: Score 1, ■: Score 2, ■: Score 3, ■: Score 4, ■: Score 5. Symbols (S, A, and C) are same as Table 1.

Figure 4 was shown the frequencies (%) of five scores about students' responses before learning about creativity. Students' social values for the work were moderate or agreed upon. The socially creative side of this work was low. The students thought that perhaps because the shape of the pottery and the pattern of lotus flowers followed the prevailing trend at the time. Students' ideas about the artistic value of this work were rated relatively high. Students' ideas about the creative part of this work were highly regarded.

Figure 5 was shown the frequencies (%) of five scores about students' responses after learning about creativity. The students' assessment of the work has not changed much since education has been carried out. There was not shown a statistically significant difference

between two groups ( $p>0.01$ ). The students' creative assessment of the work was raised by about 5 percent after the education was conducted.

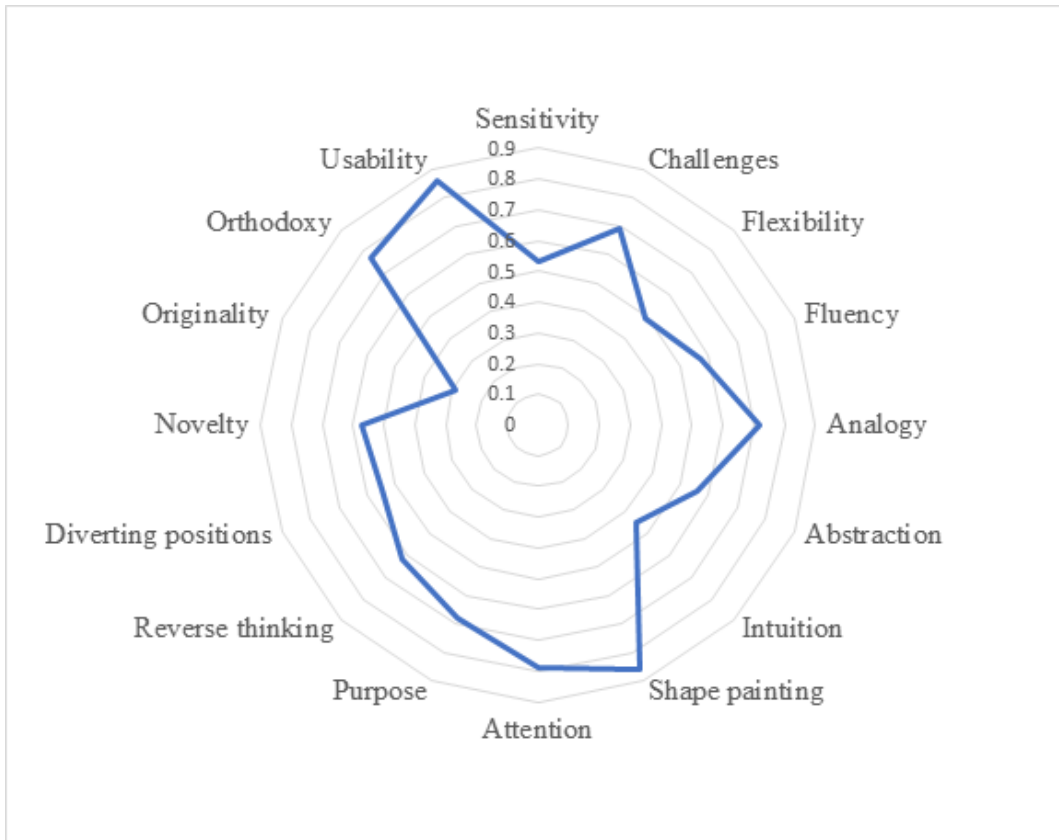


Figure 4. Creativity graph of students' responses before learning about creativity.

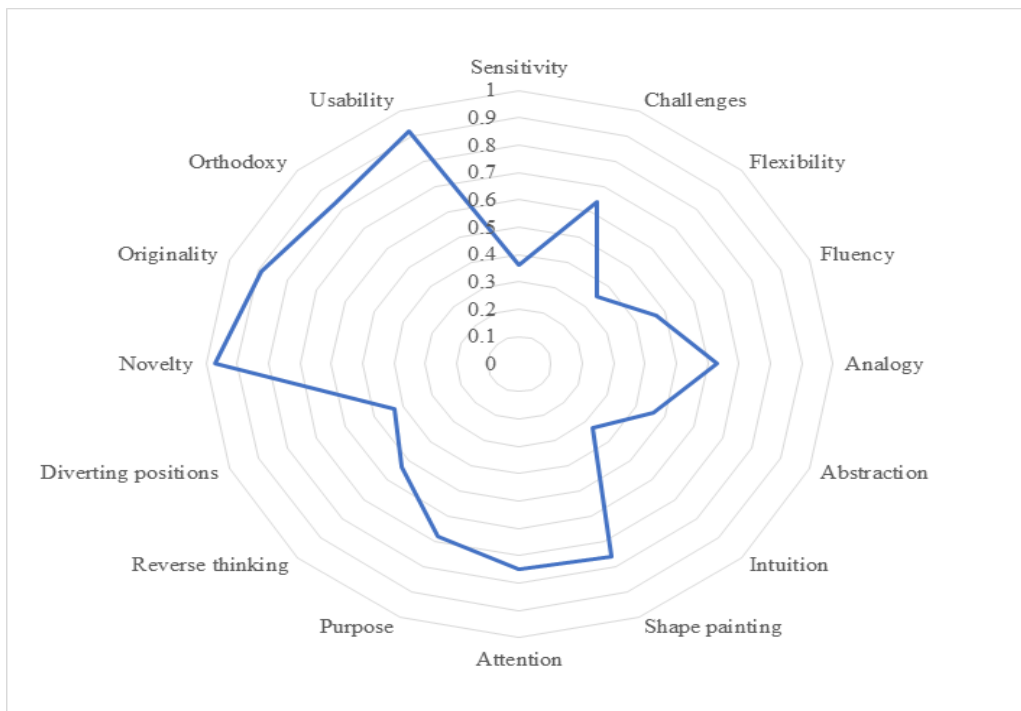


Figure 5. Creativity graph of students' responses after learning about creativity.

## DISCUSSION

The componential theory of creativity is a comprehensive model of the social and psychological components necessary for an individual to produce creative work (Amabile, 2013). Goryeo is a society of Buddhist culture. Therefore, lotus flowers were engraved on the patterns of pottery. In this light, lotus flowers are not considered creative. Creativity is found in how this is shaped.

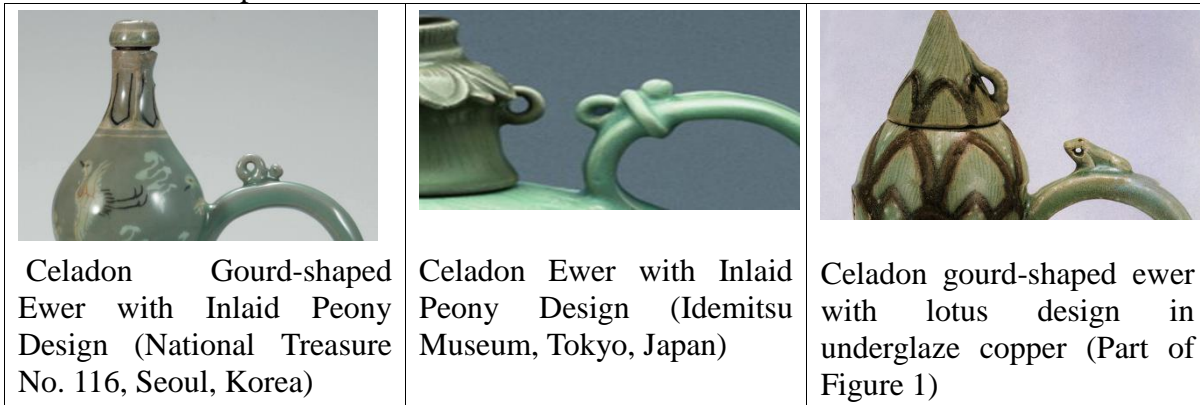


Figure 5. The connection of a ceramic lid to a handle.

Celadon Gourd-shaped Ewer with Inlaid Peony Design is National Treasure No. 116, Korea (Figure 5. Left). This celadon ewer from Goryeo in the mid-12th century has a gourd-shaped body, height of 34.4 centimeters (13.54 inches), and mouth diameter of 2 centimeters, measures 16 centimeters in the largest part of the body, and has foot diameter of 9.7 centimeters complete with elegantly curved spout and handle. The lid of this ewer can connect through narrow grooved neck with the loop. Loop shape can be seen as one of the common ways at the time. Celadon Ewer with Inlaid Peony Design is owned by the Idemitsu Museum, Tokyo, Japan (Figure 5. Middle). The celadon teapot has a few finger-pointing examples of ribbon rings. For example, Melon-shaped Ewer with Inlaid Chrysanthemum and Peony Design (Goryeo 13th century) (Ewha Womans University, Seoul, Korea) and Dragon-shaped pitcher made in the Goryeo Dynasty (National Treasure No. 61 of South Korea) have the ribbon rings. It is much higher than the loophole ring, but it is one level below the frog eye ring, which is the ribbon in the kettle. We have no objection that the Goryeo celadon began under the influence of the Chinese state of Wolju (Cultural Heritage Administration of Korea, 2006). The culmination of Goryeo celadon can be seen in inlaid (sanggam) celadon, a rarity in China. The delicate technique of sanggam involves etching the desired motifs on the dry clay body and filling in the carved space with black and/or white slip, after which the translucent glaze is applied and the vessel fired (Lee, 2003). In particular, the kettle with the lid of lotus petals can be called the Wolju-yo effect of the Northern Song Dynasty. However, the delicate and delicate rings on the lid and handle are also in consideration and not in China. This may stem from the practical idea of keeping a lid that is easy to lose. There is a little frog sitting on the handle. And then we pierced the eye part to make it a loop. It's a creative and fantastic idea. Frogs often climb on lotus leaves that float on the water. Therefore, it may have been placed on the top of the handle of the kettle. Perhaps a tadpole would look better on the lower side, not a frog.

This ewel has a flower shape on the part where the water comes out. The young Buddhist monk holding the stem with a lotus bud in his chest with his hands is a link between plants and animals. Because the boy was young, an unknown potter would have carved a bud, not a fruit or a seed. The stem of a plant is a trachea, which may have been intended to carry the

plant all over the body through the heart, which is the center of the human circulatory system. Thus, the pottery features two species of animals, a man (boy) and a frog, and one species of an unknown plant and plant called lotus flowers, which are harmonized with plants and animals. An unknown painting resembles a lotus when it is dry, but it is not known exactly. If an unknown painting is a plant species other than lotus flowers, animals and plants will be contrasted by two to two. If the picture is a dried-up lotus, it is placed in a position that is not visible to the young boy and the young frog because the plant is old in life and is farthest from their position. We think it's quite intentional.

Most of the paintings on pottery are painted flat in a bowl. But the lotus painting in this ewel is not flat. It is carved three-dimensional, as if it were scales of a fish or roof tiles. It gives us a lot of imagination why the potter didn't follow the usual pattern.

## REFERENCES

- Amabile, T.M. (2013) Componential theory of creativity. In: Kessler, E.H. (Ed.), *Encyclopedia of Management Theory*. London: Sage Publications.
- Amabile, T.M., & Pratt, M.G. (2016) The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. *Research in Organizational Behavior*, 36, 157-83.
- Cultural Heritage Administration of Korea. (2006) National Treasure 133: Celadon Gourd-shaped Ewer with Lotus Design in Underglaze Copper. Daejeon, Republic of Korea: Cultural Heritage Administration.
- Cultural Heritage Administration. (2009) Korean Heritage. Quarterly Magazine of the Cultural Heritage Administration. Cultural Heritage Administration, Republic of Korea.
- Dewey, J. (1990a) *The child and the curriculum*. (First published in 1902). Chicago: The University of Chicago Press.
- Dewey, J. (1990b) *The school and the society*. Chicago (First published in 1900). Chicago: The University of Chicago Press.
- Eisner, E.W. (2002) *The arts and the creation of mind*. New Haven: Yale University Press.
- Florida, R., Mellander, C., & King, K. (2015) *The global creativity index 2015*. Toronto: Martin Prosperity Institute, University of Toronto.
- Greenhouse, S.W. & Geisser, S. (1959) On methods in the analysis of profile data. *Psychometrika*, 24, 95-112.
- IBM Corp. Released (2012) *IBM SPSS statistics for windows, version 21.0*. Armonk, NY: IBM Corp.
- Lee, S. (2003) Goryeo celadon. Heilbrunn Timeline of Art History. New York: The Metropolitan Museum of Art, 2000–. [http://www.metmuseum.org/toah/hd/cela/hd\\_cela.htm](http://www.metmuseum.org/toah/hd/cela/hd_cela.htm) (October 2003)
- Thorkelsdóttir, R.B. (2018) Can critical thinking be taught? A Deweyan perspective on the notion of critical thinking when applied to Icelandic education. *Journal of Artistic & Creative Education*, 12, Exploring the landscape of artistic and creative education.
- Watkins, R., Meiers, M.W., & Visser, Y.L. (2012) *A guide to assessing needs: Essential tools for collecting information, making decisions, and achieving development results*. Washington DC, NY: The World Bank.