## The Imagery Component of Action Figure Design for Tainan Capital's Image

Kuo-Li Huang <sup>a</sup>, Tsen-Yao Chang <sup>b</sup>, Ting-Chun Tung <sup>c</sup>

<sup>a</sup> Department of Visual Communication Design, Southern Taiwan University of Science and Technology, Taiwan, z3z@mail.stust.edu.tw

<sup>b</sup>Department of Creative Design, National Yunlin University of Science and Technology, Taiwan, changty8908@gmail.com

<sup>c</sup> Department of Visual Communication Design, Southern Taiwan University of Science and Technology, Taiwan, tungtc@mail.stust.edu.tw

This research is split into two phases: phase one proceeds with the research of the imagery components of the Tainan action figure design. An official Delphi method research with five experts having more than six years of experience in the field of cultural creativity was conducted as well as organizing related documents. Phase two conducts the survey of the imagery components of the Tainan action figure design by applying focus group along with surveys and selecting the top three works out of 585 works from the 2009 National College Action Figure Design Expert competition as samples.

Generalizing the study result, (1) there are 3 dimensions and 26 imagery elements in Tainan's cultural figure design professional survey. (2)The result of questionnaire survey revealed that the college students' works have higher degree of sensitivity in innovative dimensions.(3)analyzing the survey result, college students' works needed to enhance their imagery elements of figure design in cultural dimensions and emotional dimensions. These are as a reference for future participation in Tainan's cultural figure design.

Keyword: action figure, capital image, culture component

\*Corresponding Author :Tsen-Yao Chang changty8908@gmail.com

#### 1. Introduction

In Expo 2010 Shanghai China, each country used their culture in the Expo designs. Through different people from different countries, there will be different interpretations for the same design. As globalization develops, how cultural images should be correctly transmitted, and how images should transmit designs have become the most important current issue. Cultural and Creative Industry Development Act has been passed in 2010. Through legislation, cultural and creative industry can be promoted, and local governments can actively promote their local cultural activities, hoping to bring developments to the local tourism industry via culture and the intangible asset.

Tainan is the origin of Taiwanese culture. Because of its location and historic factors, Tainan once served as a center for both politics and economics. Thus Tainan is known as a cultural ancient capital. The government of Tainan set 2007 as the cultural tourism year of traditional Tainan and arranged a series of sightseeing travels, cultural festival activities, and cuisine promotion, etc. Featured cultural activities include Koxinga Culture Festival, Tainan International Chihsi Arts Festival, and Confucius Temple Culture Festival, etc. Action figure matching the cultural features such as Koxinga, god of marriage, and Confucius, etc. is produced in the activities. Local government promotes cultural activities through action figure to provide further understanding about related cultural topics. Among all cultural activities, it is not uncommon to see that sponsors encourage new generation youth to utilize their creativity for new elaboration on local culture through creative miniature design contests.

The Cultural Creative Figures design competitions are extensively popular, and the competitors are mostly the students from high schools and colleges. Design is no longer a job for designers. Creative activities can be found in every field. During the process of their designing the culture-oriented figures, how to make use of the cultural elements, how to display it on the figures, and how to communicate the cultural images to the viewers are the key points of this paper.

We will put my discussions on the followings: first, the needed elements for building the images of the Tainan-culture-oriented figures; second, by using the way of questionnaire, to understand the transmitted cultural images from the figures that were designed by the college students; last, to analyze the pros and cons of the cultural images, which was transmitted by figures that was designed by the college students.

#### 2.1 Characters and contents for designing cultural creative products

United Nations Educational, Scientific and Cultural Organization[20] suggests that the double characters, which include both culture and economics, of the cultural products could be a vehicle for expressing cultural characteristics, values, and meaning. Cultural industry could not exist without creativity and innovation, and creativity and innovation are also the central power for cultural products[18]. Culture characteristics could be illustrated through creative expression pattern. The designs of cultural products are no longer limited to the knowledge and imagination of designer, but extend to include consumers' understanding about the featured life style affected by cultural background[7]. Cultural products preserve and continue the cultures itself with a creative pattern.

Throsby proposed three criteria to define cultural goods: combining creativity into productive activities, expressing representative meaning from cultural contents, and subsisting intellectual property right(s) in certain form[19]. Leong and Clark argued that three cultural levels, which consist of outer level (tangible and substantial), intermediate level (functional and operational), and inner level (ideological and spiritual), construct the design for cultural integration[9]. Lin based on the theory on three cultural levels and added factors needed in the three cultural levels while designing. Added factors are listed according to their cultural levels as following[11]:

- (1) Outer level/appearance level includes colors, textures, styles, and etc.
- (2) Intermediate level/ behavior level includes dimensions, operations, and etc.
- (3) Inner level/ psychological level include special implications, stories, affections, cultural characteristics of the products, and etc.

From the viewpoints mentioned above, we could recognize that the characteristics of cultural goods include

creativity, cultural symbolism, intellectual property right, color, texture, style, and dimension.

Ming-Quan Ho et al. considered that cultural products need to provide dimensions for cultural identity, which may include cultural human factors, heritage of form and image, promoting consumers to participate activities, search for the spirits of local life, and establishment of delicate life and culture[14]. Postrel indicated that emotion is the major factor for persuading the consumers into purchasing and aesthetic feeling could bring up joyful memories and experiences[17]. Ya-Chieh Lee research also indicated the following concepts[22]:

- (1) Strengthening heterogeneous style and appropriate addition of symbol elements allow a product to tell a story of its own.
- (2) Combining cultural symbols and the uniqueness of culture could feature products with characteristics of Taiwanese cultures.
- (3) Comprehensibility of users in different countries increases the internationality of products.

Thus, besides cultural characteristics, it's necessary for cultural products to be experiential, which brings up people's memories and experiences in the past.

Through their research, Chun-Chih Chen and Yi-Jie Lifound that cultural symbol, cultural creativity, and emotion are three major factors that affect consumers' purchase intentions for museum souvenirs[3]. Ya-Jie Li's research revealed that transmission of cultural message, integration of design programming, and identity of the products etc. are dimensions serve as indicators for the image design of goods[23]. Chun-Chin Chen and Zhi-Xuan Shen's research also indicated that cultural meaning, interesting content, personalization, and etc. all influence consumers' comments on action figure of traditional Taiwanese cultures[4]. Lin proposed the 4C principle of cultural creative products[10]:

- (1) Cultural: originating from the culture of ordinary life
- (2) Collective: collecting element featuring cultural characteristics from antiques and transforming into the design of daily necessities.
- (3) Cheerful: something pleasing and cheerful
- (4) Creative: creative expression that combines ordinary life.

From the literatures mentioned above, we could conclude that the design of cultural creative product could be generalized into three dimensions: cultural, innovation, and emotion. The three dimensions of the cultural creative products displayed the contents and meanings of cultures.

#### 2.2Creative expression and image transmission

Creativity is the actual behaviors of innovation[1]. A new product with originality would be more valuable[8]. Michael mentioned that the common innovation ability shared between students' is unusualness and usefulness[13]. Yu-Shan Chang's research indicated that there are some categories for student to show their innovation ability while producing products[24]: (1)Unusualness: including materials, styles, and structures, etc. (2)Novelty: including originality and scarcity, etc. (3)Feasibility: including concreteness and integrity, etc. (4)Values: including aesthetic, dimension, and multi-purpose, etc. Davis implied that the novelty could be revealed through the actual expression of creativity and one innovative product should be unique, practical, and rich in social values[6]. Chun-Di Chen etc. pointed out that learning of industrial design project should include creativity, styling aesthetic, integrity, and expression ability[5]. To sum up, students' creative expression in

designing products should contain originality, visual aesthetic, integrity, and practicality.

Besides fundamental dimensions and aesthetic need, consumers also seek the sensory image of the product to live up to certain spiritual needs while making purchasing choices[16]. Owing to the short period of consumers' attention, designers need to utilize the image of the product to attract consumers' attention [21]. A touching image design could create attractive force and construct new design knowledge that allow consumers to reach new things or understanding about culture, history, and aesthetics, etc[12]. In the era of experience economy, what consumers care most are their own experiences, perception for the stimuli encountered, and arousal of previous experiences or related products [15]. Brown evaluated whether consumers experience wonderful experiences through asking the following questions[2]:

(1)Whether the experience meaningful or memorable?(2)Whether consumers could enjoy the experience while interacting with the products without any explanation?(3)Whether the design is aesthetic and accurate? In the era of experience economy, cultural creative products aim to provide invisible image transmission about spirits. In practice, the aim of image and experience transmission is achieved though attracting consumers' attentions and providing them spiritual satisfaction. Three dimensions can be concluded from studies mentioned a bove:

#### 1. Cultural dimensions

(1) the links of products and local culture; (2) products transmit the characteristics of the local culture; (3) products contain unique human spirit; (4) products contain the local ambience; (5) products combine the situations of local feeling; (6) products are equipped with signals of cultural identifier; (7) products with unique; (8) products with international; (9) products with thematic; (10) products can be easily accepted by users of different cultures; (11) products' cultural symbol is easy to be differentiated; (12) products' cultural symbol give the sense of familiarity; (13) products cultural symbolism possess localization; (14) products apply local culture color; (15) products with spiritual sustenance qualities.

#### 2. Innovative dimensions

(1) personality of designer expression (2) taste of designer expression (3) variety design style (4) innovative design styles (5) products with practical dimensions (6) the shape with modernity (7) the shape with sense of design (8) the shape with interesting (9) the shape with lovely sense (10) the shape with visual aesthetic (11) products with originality (12) Product with sustainability (13) product with diversity (14) improving delicacy of the product

#### 3. Emotional dimensions

(1) the product is impressive (2) product with special meaning (3) product with cultural story (4) products attract viewer attention (5) product with inheritance (6) products with recall (7) product with experience (8) products with memorial (9) product with emotional appeal (10) product with a sense of identity (11) product with memorization.

#### 3.Methods

To achieve the purpose of this research, we divided the study into two stages. The first stage is to investigate the constitution of the elements involved in the design of Tainan cultural action figure. First we collected and sorted out all related literatures to preliminarily divided the elements involved in Tainan cultural action figure into three dimensions: cultural, innovative, and emotional. 40 items in the structural questionnaire are designed according to the categorized elements. As shown in table 1, the questionnaire adapted from Delphi Method was

checked by five specialists with at least 6-year experience in cultural creative industry field. As shown in table 2, we first take advantage of simple-dichotomy question to facilitate specialists to choose items which represents components involved in Tainan cultural action figure that should be reserve. Then we provided feedback of questionnaire designed in simple-dichotomy to specialists so that specialists could provide their revised opinions. We considered the opinions from specialists to undergo some revises in our questionnaire.

In the second stage, we focused on specific group to design questionnaire items chosen from stage one. From 585 works in 2009 National College Action Figure Design Expert competition, we chose the top 3 works as our samples for the questionnaire aimed to investigate the designed image of Tainan cultural action figure. From the consequence obtained from the pretest, we found respondents with design background are more likely to identify the transmitted image. So we chose 16 junior students and 14 senior students (13 male and 17 female) major in designing as our respondents. Likert scale defines the degrees from 1 point to 5 points. (very agree for 5 points, agree for 4 points, neither degree nor disagree for 3 points, disagree for 2 points, and very disagree for 1 point). We utilized this designed to evaluate whether the designed works of Tainan cultural creative action figure successfully transmit images through their design.

Table 1. The Components of Tainan Cultural and Creative action figure Design Imagery – Preliminary Dimensions

A. Cultural dimensions	B. Innovative dimensions	C. Emotional dimensions
A1.The links of products and local	B1.Personality of designer	C1.The product is
culture	expression	impressive
A2.Products transmit the	B2.Taste of designer expression	C2.Product with special
characteristics of the local culture		meaning
A3.Products contain unique human	B3. Variety design style	C3.Product with cultural
spirit		story
A4.Products contain the local	B4.Innovative design styles	C4.Products attract viewer
ambience		attention
A5.Products combine the	B5.Products with practical	C5.Product with inheritance
situations of local feeling	dimensions	
A6.Products are equipped with	B6.The shape with modernity	C6.Products with recall
signals of cultural identifier		
A7.Products with unique	B7.The shape with sense of design	C7.Product with experience
A8.Products with international	B8. The shape with interesting	C8.Products with memorial
A9.Products with thematic	B9. The shape with lovely sense	C9.Product with emotional
		appeal
A10.Products can be easily	B10.The shape with visual	C10.Product with a sense of
accepted by users of different	aesthetic	identity
cultures		
A11.Products' cultural symbol is	B11.Products with originality	C11. Product with

easy to be differentiated		memorization
A12.Products' cultural symbol give	B12.Products with sustainability	
the sense of familiarity		
A13.Products cultural symbolism	B13.Product with diversity	
possess localization		
A14.Products apply local culture	B14.Improving delicacy of the	
color	product	
A15.Products with spiritual		
sustenance qualities		

Table 2 Expert Background

No	gender	background	experience	year of
				experience
1	Female	Product Design	The Creative Director of Pinyen Creative Inc	10 years
			The Senior Designer of Tittot	
2	Male	Product Design	The Assistant Manager of NOVA Design Co. Ltd.	15 years
		Design Services	The Researcher of BenQ Digital Fashion Design Center	
3	Male	Product Design	The Assistant Professor of Visual Communication Design	10 years
		Emotional Design	of Southern Taiwan University of Science and	
			Technology	
4	Female	Kansei Engineering	The Project Guidance of Hantings	15 years
		Graphic Design	CEO of Siang-Yu School	
5	Female	Graphic Design	The Lecturer of Visual Communication Design of	6 years
		Project Design	Southern Taiwan University of Science and Technology	
			The Project Manager of Nani Bookstore Design	

#### 4. Results and Discussion

After providing the specialists the feedback of previous questionnaire, we underwent Delphi Method for second time. After two times of Delphi Method, we discuss the result of the designed image involved in Tainan cultural creative action figure in three major dimensions:

#### A. Cultural dimension

Among "A.Cultural dimension", "A1.The links of products and local culture", "A2.Products transmit the characteristics of the local culture", "A3.Products contain unique human spirit", "A5.Products combine the situations of local feeling", "A6.Products are equipped with signals of cultural identifier", "A7.Products with unique", "A9.Products with thematic", "A11.Products' cultural symbol is easy to be differentiated", "A12.Products' cultural symbol give the sense of familiarity", "A13.Products cultural symbolism possess

localization", and "A14.Products apply local culture color" are items that more than half the specialists considered to be essential

- "A4.Products contain the local ambience", "A8.Products with international", "A10.Products can be easily accepted by users of different cultures", and "A15.Products with spiritual sustenance qualities" are considered as nonessential cultural factors, as shown in figure 1. The following 6 factors are thought to be essential by all specialists:
- (1) "A1.The links of products and local culture": involve the culture of Tainan, such as local historical sites, festivals, customs, food, historical figures et al.
- (2) "A2.Products transmit the characteristics of the local culture ": go deep into Tainan's culture, choose the representing cultural elements, and deliver Tainan's cultural features.
- (3)" A9.Products with thematic ": enhance the character of the image action figure, clarify the cultural theme, and increase the integrity of the creative cultural image action figure.
- (4)" A11.Products' cultural symbol is easy to be differentiated": the chosen cultural elements should have the symbolism that is easy to identify, allowing people to quickly see the cultural symbols of Tainan and further understand the culture.
- (5)" A13.Products cultural symbolism possess localization": use local stories, materials, products et al. to provide backdrop for the cultural symbolism.
- (6)" A14.Products apply local culture color": colors can present various feelings. Use the colors of local culture to link emotional memories and intensify the cultural senses.

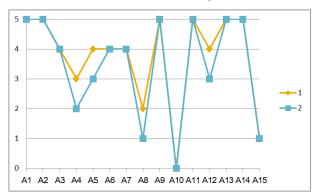


Figure.1 A.Cultural dimension-Delphi results

### Table 3. Questionnaire items of Cultural dimension

#### **Cultural dimension**

- Q1. I think the action figure links Tainan culture.
- Q2. I think the action figure has Tainan cultural characteristics.
- Q3. I can feel the cultural themes presented in this action figure.
- Q4. I think the action figure has Tainan culture color.

Through focusing on specific group, we modified items in the questionnaire to serve as the investigation items in the second stage. "A11.Products' cultural symbol is easy to be differentiated" was merged into "A1.The links of products and local culture" because of its characteristics to making connection to local culture characteristics. "A13.Products cultural symbolism possess localization" was merged into "A2.Products transmit the characteristics of the local culture" because it could transmit the characteristics of local culture as well. We underwent modifications mentioned above to allow respondents to clearly understand the items listed in the questionnaire.

#### **B.** Innovative dimension

In "B. Innovative dimension", more than half of the experts think the required factors are "B4.Innovative

design styles", "B7.The shape with sense of design", "B10.The shape with visual aesthetic", "B11.Products with originality", "B13.Product with diversity", "B14.Improving delicacy of the product". More than half of the experts think that, "B1.Personality of designer expression", "B2.Taste of designer expression", "B3.Variety design style", "B5.Products with practical dimensions", "B6.The shape with modernity", "B8.The shape with interesting ", "B9.The shape with lovely sense", "B12.Products with sustainability", these eight items are innovative factors that are not required, as Figure 2. Three factors among them are viewed by all experts as required factors of innovative dimension, they are:

(1)" B10. The shape with visual aesthetic": It is necessary for modern products to be equipped with not only the value in use as products, but also the aesthetic perception and excellent visual aesthetics to enhance the attractiveness of cultural creative action figures.

(2)" B11.Products with originality": Cultural creative products possess the protection by the Intellectual property (IP), enhance the originality of creative design, and increase the value of cultural creative action figures.

(3)" B14.Improving delicacy of the product": To enhance the degree of delicacy of cultural creative action figures, and expand the market of cultural creative action figures.

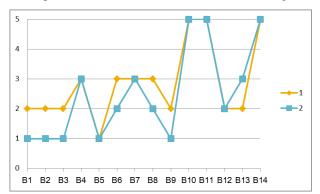


Table 4. Questionnaire items of innovative dimension

Innovative dimension	1	
the action figure shape ha	ıs v	isı

Q5. I think the action figure shape has visual aesthetic.

Q6. I think the creative design of the action figure has originality.

Q7. I think the action figure is very delicate.

Figure.2B innovative dimension-Delphi results

The questionnaire items are modified by using focus group method and used as those of the second stage. The subjects can understand the questionnaire items clearly by incorporating the creative design into the item of "B11.Products with originality" as shown in Figure 4.

#### C. Emotional dimension

Among the "C. Emotional dimension," more than half of the expertise thinks the necessary factors should include "C1.The product is impressive" "C2.Product with special meaning" "C3.Product with cultural story" "C4.Products attract viewer attention" "C6.Products with recall" "C7.Product with experience" "C8.Products with memorial" "C9.Product with emotional appeal" and "C10.Product with a sense of identity" Furthermore, more than half of the expertise points out that "C5.Product with inheritance" and "C11. Product with memorization" are unnecessary emotional factors as figure 6 shows. The 8 factors are the needed emotional factors identified by all of the expertise, they are:

(1)" C1. The product is impressive": it vibrates human senses simply by its visual presentation, raising the viewer's attention to the new cultural creative action figures.

(2)" C2.Product with special meaning": every cultural is unique in its own way. Through the creation of the cultural creative action figure, it connects the viewer with the cultural believes or mythical stories in a light way.

For example, the cultural creative action figure retains the meaning of blessing from the goddess.

- (3)" C3.Product with cultural story": the formation of the cultural believes are partly based of myth, history, and the stories that are passed down from elders, and the creative cultural action figure connects all the cultural stories with public in its unique way.
- (4)" C4.Products attract viewer attention": the attention one pays to a product is short and limited unless the product is interesting enough to catch one's eye. Using the brand new presentation and creative method, the cultural creative action figure is no doubt the center of the attention.
- (5) " C6.Products with recall": Through creative expression, the memory of the Tainan culture is triggered among the public.
- (6) "C8.Products with memorial": The cultural and creative toy figure has the monumental qualities to make the public further collect it.
- (7) "C9.Product with emotional appeal": The design touches the hearts. When people contact the cultural and creative action figure, they can feel similar experience and things without instructions and get emotional sustenance.
- (8) "C10.Product with a sense of identity": The cultural characteristics include community culture, spiritual culture, cultural culture...et al. The cultural significances are often closely related in the society. The cultural identity is conveyed by the cultural and creative action figures.

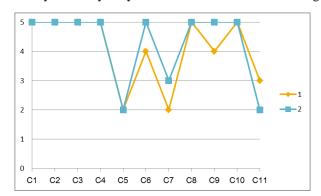


Figure. 3 emotional dimension - Delphi results

Table 5. Questionnaire items of emotional dimension

# Emotional dimension Q8. I think the action figure impressive. Q9.I think cultural theme of the action figure has special meaning.

- Q10. I think the action figure has cultural story.
- Q11. I think the action figure really get my attention.
- Q12. I think the action figure reminds me of my memories of the past.
- Q13. I think this action figure has commemorative value.
- Q14. The action figure motivates my identity of Tainan culture.

Focus group discussion is applied in the second part of the questionnaire. For the factor "C9.Product with emotional appeal" because the cultural creative action figures trigger different kinds of emotional experiences such as the audience's memories, cultural stories, and special meanings, the identity interviewees can fully understand the content of questionnaire, shown as figure 5.

From the result of Delphi Method, specialists reckoned that cultural dimension and emotional dimension, rather than innovative dimension, are the main elements involved in the designed image of Tainan cultural

creative action figure. Emphasizing application of cultural factors and emotion connection, usage of cultural materials could indirectly connect to cultural emotion. Transmitting theme of Tainan culture in spiritual level lives up to the emotional appeal and connects cultural contents. With regard to the design of Tainan cultural, the strategies should not be limited to creativity that show new ideas, but should emphasize more on design in emotional level. Culture is the presentation of life style, which shared by people. In the beginning of developing cultural creative industry, we should focus on the innovative expression in creative level. However, now we need to root deeply into social culture to further develop the cultural contents. New generation should contribute their creativity to the application of cultural emotion level. Through emotion connection, the charm of cultural creative action figure could be enhanced.

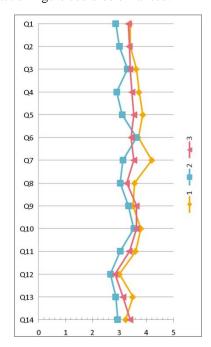


Table 6. Samples of Imagery Components for Tainan cultural and creative action figure design



Figure 4 Results of Imagery Components for Tainan cultural and creative action figure design

#### The investigation result of the works in 2009 National College Action Figure Design Expert competition

From the result analysis of the questionnaire, as shown in figure 4, sample 1 obtained higher scores and this means sample 1 could evoke feeling for Tainan culture. Sample 2(as shown in table 6) obtained the lowest score among 3 samples, which means sample 2 is less likely to evoke feeling for Tainan culture. The highest score for sample 1 is 4.2(Q7) and what we could know is that the expression techniques of sample 1 are delicate. The second highest score for sample 1 is 3.87(Q5), which indicates the styling expression of sample 1 allows people to highly appreciate the aesthetic feeling. From the observation above, we could conclude that sample 1 is the most featured Tainan cultural creative action figure among the three samples. Sample 2 obtained lower scores at Q12, Q13, Q1, and Q4. Thus we could know that the expression pattern of sample 2 provides weaker connection to the feeling of Tainan culture. The feelings about sample 3 are relatively coherent. Q9 granted sample 3 3.63 points, which is the highest score for the feeling of cultural stories. 3.4 points in Q14 reveals that the usage of cultural elements in sample 3 could arouse the identity feeling of Tainan culture.

Our results of study reveal that college students are more likely to manipulate the innovative dimension in designing the image of cultural action figure. "B10.The shape with visual beauty", "B11.Products with

originality", and "B14.Improving delicacy of the product" are the three items that enhance respondents' perception and thus could make it more likely for respondents to identify the transmitted message from the works.

Nevertheless, the cultural dimension and emotional dimension are relatively hard to manipulate. Since college students may focus on innovative dimension but fail to manipulate cultural dimension and emotional dimension while designing cultural action figure, we suggest new generation students to further understand the content of local culture or experience local culture personally before designing the action figure. Following our suggestions would facilitate better clear and correct transmission of cultural images and contents while designing the cultural action figure.

#### 5. Conclusion

With regards to the image constructing factors of Tainan culture creative action figure design, three dimensions and 26 points of view are suggested in this research. Through conducting surveys on the products of Tainan culture creative action figure design, we have discovered that college students are better at comprehending and manipulating the creative image constructing factors than utilizing cultural constructing or emotional constructing factors. This paper would suggest that when designing innovative cultural figures, college students should acknowledge the specific focus of the local culture in-depth in order to interconnect the cultural specificity with emotional factors, leading to the results of culturally created figures, which would more faithfully transfers the local cultural characteristics and essence.

Specialists nowadays, consider the designing of Tainan culture creative action figures needs to be focus on the communication of image at both cultural and emotional dimensions. Studies of "Creation from college students" show that, the college students are easier to be mastered the specialty of innovation dimensions. From this fact, the professions believe that college students will have to improve their designing in the cultural and emotional levels. From focus on the creative design to the one which indicates emotional and cultural specialty. Trends of the cultural creativity industry have been developed from originality designing into a cultural emotional designing by connecting the technique of originality to the emotional level. The new generations would have to go deeper through the cultures to pass on the images of cultural aspect by the performing of designing techniques.

#### References

- [1] Amabile, T.M. (1996) Creativity in context. Boulder, Colorado: Wesr view Press.
- [2] Brown,T.(2009)Change by design:How design thinking transforms organizations and inspires innovation.New York:HarperCollons.
- [3] Chun-Chih Chen, Yi-Jie Li (2008)The Application of Kano Model on Exploring the Attractive Attributes of Cultural Product Design, Journal of Design, Vol. 13, No. 4.
- [4] Chun-Chin Chen, Zhi-Xuan Shen (2011)The Study of Consumer Preference for Traditional Culture Creativity Design A Case of Figure Designs, Journal of National Taiwan University of Arts, No. 89.
- [5] Chun-Di Chen, Chia-Yin Huang, Ju-Jong Wong (2012), Evaluation Criteria in Industrial Design Learning: An Analysis of Teachers' Perspective, Research in Arts Education, No. 23, pp. 71-100.
- [6] Davis, G.A. (1986) Creativity is forever. Dubuque, IA: Kendall/Hunt.
- [7] De Souza,M,.&Dejean,P.H.(1998)Cultures and product relationship in a globalized environment. Anais do P&D Design98AenD-BR Estudos em Design,2(October),513-522.

- [8] Kleinschmidt, E.J. & Cooper, R.G. (1991) The impact of product innovativeness on performance. Journal of Product Innovation Management, 8(4), 240-251.
- [9] Leong, D. & Clark, H. (2003) Culture-based knowledge towards new design thinking and practice-A dialogue. Design Issues, 19(3), 48-58.
- [10] Lin,R.(2008) Service Innovation Design for Cultural and Creative Industries-A case Study of the Cultural and Creative Industry Park at NTUA. INternation Service Innovation Design Conference 2008, 20-22 Oct. Dongseo University, Korea.
- [11] Lin, R.T. (2007) Transforming Taiwan aboriginal cultural features into modern product design: A case study of a cross-cultural product design model. International Journal of Design, 1(2), 45-53.
- [12] Ludden, G.D.S., Schifferstein, H.N.J., & Hekkert, P. (2008) Surprise as design strategy. Design Issues, 24(2), 28-38.
- [13] Michael, K.Y. (2000) A comparison of students' product creativity using a computer simulation activity versus a hands-on activity in technology education. Unpublished manuscript, Virginia Polytechic Institute and State University.
- [14] Ming-Chyuan Ho, Chi-Hsian Lin, Yi-Chun Liu (1996) Some Speculations on Developing Cultural Comodities, Journal of Design, Vol. 1, No. 1, pp. 1-15.
- [15] Oliver, R.L., & Winer, R.S. (1987) A framework for the formation and structure of consumer expectations-Review and propositions. Journal of Economic Psychology, 8(4), 469-499.
- [16] Pink,D.(2008)A whole new mind: Why right-brainers will rule the future. New York: Riverhead Books.
- [17] Postrel.V.(2003) The substance of style. New York: Harper Collins.
- [18] Power, D. (2002) Culture Industries in Sweden: An Assessment of their Place in the Swedish Economy, Economic Geography, 78(2):103-127.
- [19] Throsby, D. (2000) Economics and culture. Cambridge University Press.
- [20] UNESCO (2005) Convention on the Protection and Promotion of the Diversity of Cultural Expressions. Retrieved October 20, 2005, from United Nation Educational, Scientific and Cultural Organization.
- [21] Wylant, B. (2008) Design thinking and the experience of innovation. Design Issues, 24(2), 3-14.
- [22] Ya-Chieh Lee (2007) A Study of Taiwanese Design Development through Symbolic Commodity Consumption and Commodity Aesthetics, Journal of Humanities and Social Science, Vol. 3, No. 1, pp. 41-55.
- [23] Ya-Chieh Lee (2011)A Study on the Weighting of Indicators for Image Design, Journal of Design, Vol. 16, No. 1, pp. 41-64.
- [24] Yu-Shan Chang (2003) A Study on Creativity of Virtual Teams, the Doctoral Dissertation of the Graduate School of Industrial Education of National Taiwan Normal University, Taipei.