The Unorthodox Use of Bamboo in Fashion Styling Design

Tuck-Fai Cheng[1,2](✉), Hsiu-Wen Teng[2], and Po-Hsien Lin[1]

[1] National Taiwan University of Arts, New Taipei City 22058, Taiwan
t0131@ntua.edu.tw
[2] Hungkuang University, Taichung City 43302, Taiwan
kenneth1831@hk.edu.tw

Abstract. The avant-garde fashion styling is based on the spirit of fashion pioneer, rejecting the taste of "mainstream value", and based on exploring any possibility of "boundary value" in fashion styling design. Its experimental and innovative design concepts trigger forward-looking thinking and form new work forms, and create unique visual charm works with non-traditional design styles. This article focuses on the expression of "bamboo" with unorthodox material, and expands its artistic expression and understanding of the overall image design through its alternative applications. This article explores the position of "Heterogeneity" in the non-mainstream "boundary value" of works based on: avant-garde art theory, information dissemination theory and hierarchy of needs theory, fusion of the theoretical construction of aesthetic pleasure perception mode, and expands on bamboo material with unorthodoxy performance applied to fashion styling design. In addition, the "questionnaire survey" reflects the public's feelings, reactions and aesthetic value of the use of unorthodox bamboo works. According to the results of statistical analysis, the "fashion craftsmanship" (Q5) (fashion integration) in the works showed a satisfaction score of 8.43 and 8.95 with the "Bamboo Weaving Traditional Cultural Characteristics" level. Moreover, the degree of creativity in the work is 8.36, and among the "Material--Media Expression" (F1), "Craftsmanship--Formation" (F2), and "Style--Aesthetics" (F3) values. "Style--Aesthetics" is the reason that affects the main characteristics of the work. The application and performance of bamboo work in the creative world of unorthodox materials will also carry out a new experiment in fashion aesthetics and follow-up exploration of related extended topics in the form, concept, historical view, and aesthetics of the work.

Keywords: Avant-garde · Unorthodox materials · Bamboo fashion styling

1 Introduction

Nantou county in Taiwan where bamboo craftsmanship is well-known overseas in Zhushan town. By exploring the bamboo culture, it inspires any possibility for traditional bamboo culture craftsmanship and fashionable overall design, which makes the development of bamboo characteristics in design industry to make the traditional skills

into a new style in the era. This research combines bamboo materials with the installation techniques of fashion styling design, and using various bamboo weaving techniques to show the new aesthetic style of contemporary creation of overall fashion styling.

With the development of society, people have surpassed the instinctive needs of animals, and the emergence of spiritual needs has produced a wealth of spiritual life and consciousness. Considering the stage of traditional bamboo handicrafts transforming from its practicality into aesthetics thinking, Breaking-through bamboo handicrafts should no longer be limited to making traditional practical living utensils. In order to combine bamboo craft weaving with fashion styling design, it is hoped that bamboo products can also be promoted in the industry and used creatively. Instead, it should be expressed in different art forms, breaking away from the tradition and creating a different new style.

A questionnaire survey was derived from teaching experience mainly implemented from the three directions(Main-factors) of "Materials", "Craftsmanship" and "Style", which focusing on 9 sub-factors as follows: "Alternative Materials" (Q1), "Technological Novelty" (Q2), "Visual Expression" (Q3), "Material Emotions" (Q4), "Fashion Application" (Q5), "Symbolic Representation" (Q6), "Model Shaping" (Q7), "Innovative Performance" (Q8), "Taste Cultivation" (Q9), to explore the relationship and value of "Material--Media expression" (F1), "Craftsmanship --Formation" (F2), "Style--Aesthetics" (F3) (see Fig. 1).

The results of the study were expected to reinforce theoretical support for bamboo as unorthodox used materials, especially in fashion styling design. Therefore, the research purpose can be briefly described as follows:

1. Discussing the cognition of bamboo as unorthodox materials in fashion styling design.
2. Explore the artistic expression of bamboo as a medium for avant-garde fashion styling.
3. Incorporating the essence of traditional bamboo culture into contemporary craftsmanship, technology and aesthetic creation.
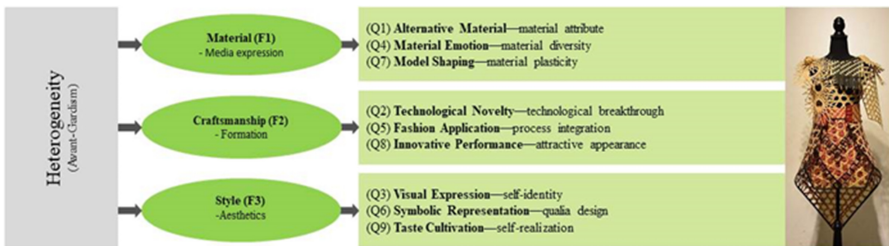
Fig. 1. The evaluation of creative "heterogeneity" in design works

2 Literature Review

2.1 Avant-Gardism

Using bamboo and traditional weaving craftsmanship, this article uses avant-gardism to deconstruct the artistic ideology, to expose and change the new style of bamboo works, and become a creation with the status of traditional works and a new discourse mode. Under the thinking of avant-gardism [2], the profound thinking of using bamboo as the fashion styling design-behind the action, the artistic rules of revealing and covering are a purpose with profound significance [7]. The self-discipline of creative aesthetics under avant-gardism can bring about the core principles of works, and the goal is to sublate the "cynicism" of art and life. Avant-gardism questions the visible reality and reveals that reality does not exist as a "total" as characteristic. It reveals reality as a kind of construction, and the existence of reality is basically irregular, fractured and contradictory without the characteristics of "integrity". It serves as a preliminary task for the exploration of postmodernist aesthetics, continuing to involve themselves in contradictions in artistic norms, and use deconstruction as the definition, norms and conditions of art popular to create "indescribable themes" [5]. This fashion styling design work created with bamboo materials will later respond to the value of its work with statistical analysis. *The World of Wearable Art Awards Competition of New Zealand* (WOW) artworks are the fusion of creativity and avant-garde creation presented in the global avant-garde Wearable art award competition [8].
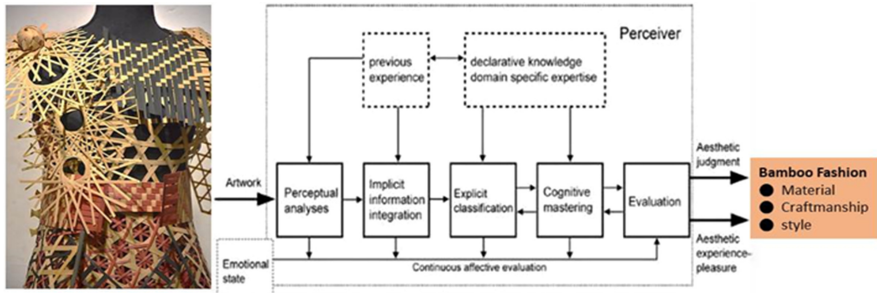
2.2 Aesthetic Experience

Hekkert based on the original aesthetic experience map of Leder et al. (2004), proposed the perception model of aesthetic pleasure as shown in Fig. 2, showing the emotional state of aesthetic experience, from the self-operational work to the aesthetic judgment of the perceiver (Aesthetic judgment) or aesthetic experience pleasure. The process of which starts with perceptual analysis, implicit information integration, explicit classification, and cognitive mastering. After the evaluation, an aesthetic judgment or aesthetic pleasure experience is produced. This model to be used in bamboo styling works, is to clarify the perception of aesthetic pleasure and is deeply influenced by personal past experience [1]. The schematic relationship between fashion styling design [6] and theoretical framework of aesthetic experience can be also shown in Fig. 2.

3 Research Methodology

3.1 Research Process

This research was based on the graduation project of graduate students' works of Applied Cosmetology Department of Hungkuang University, Taiwan. An online questionnaire was developed to examine the standard of the "Heterogeneity" avant-garde concept of using bamboo as the physical materials to being transformed by the designer into appearance materials or appearance design works. A total of 91 questionnaires had been returned. After obtaining the data required for style analysis, a statistical technique of multiple regression analysis was employed to explore and evaluate the significance of these relations in the design works (see Fig. 3).

Fig. 2. Converted schematic diagram of the relationship between bamboo fashion styling design and theoretical framework of aesthetic experience from Leder et al.

Bamboo Armor
Material: Bamboo
2019

Designer:
Hsiu-Wen Teng

Project Supervisors
Tuck-Fai Cheng
Hungkuang University,
Taiwan.

Fig. 3. Bamboo armor, bamboo works on fashion styling design

3.2   Research Framework

This research framework mainly illustrates how the case study could be used to develop the process to reach the conclusion from artist to audience. The figure illustrates the 9 items (questions) in the questionnaire content (from Q1 to Q9). The purpose was to decode the coding of the designer or creator's work to audiences. The decoding process was to understand the conversion from the technical level of the work to the semantic level, to reach the effectiveness to get the meaning. In addition, it also involved from the emotional material, through the aesthetic process, to create the emotional image and finally aesthetical experience would be obtained. Meanwhile, 9 items (questions) in the questionnaire were used to have further analysis (see Fig. 4).
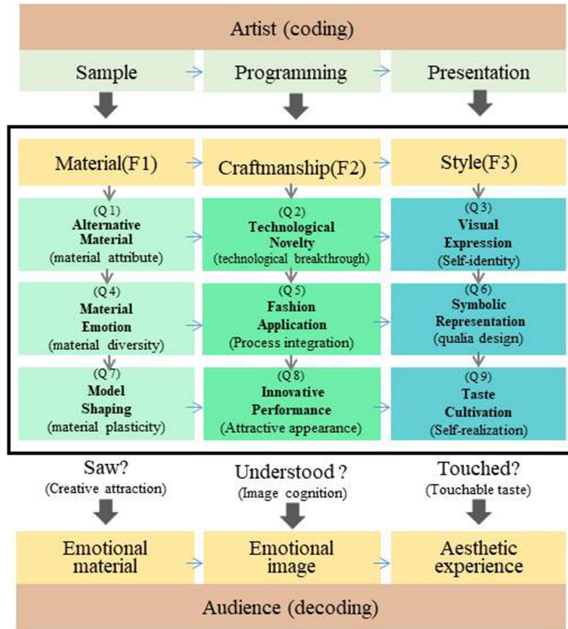
Fig. 4. Research framework for case study

3.3 Research Stimuli

These 9 sub-factors (Q1–Q9) as a test to discuss the topic, were being consultation with experts and scholars. The participants of questionnaire survey were composed of graduate and undergraduate students. A total of 91 participants completed the questionnaire.

4 Results and Discussions

4.1 Analysis the Degree of Preference

This study analyzed 91 participants' impression towards design works. Evaluation was used on the degrees of 9 sub-factors (Q1–Q9) demonstrated in the design works. A preference and mean scores were for evaluating overall impression and the outcome was shown in Table 2. The first rank was "fashion Application" for "process integration" (Q5), and the last would be "Taste Cultivation" for "Self-realization" (Q9) (Table 1).

4.2 Variation Analysis for Three Groups of Students

F1, F2, F3 showed no significant differences for the three groups of questionnaire survey test (Table 2).

Table 1. The ranking degree of preference

Rank	1	2	3	4	5	6	7	8	9
Question	Q5	Q3	Q1	Q6	Q8	Q7	Q4	Q2	Q9
Mean scores	8.43	8.38	8.37	8.36	8.32	8.31	8.23	8.19	8.18
SD	1.3796	1.4675	1.2717	1.5281	1.3345	1.4946	1.4196	1.4211	1.3792

Table 2. Variation analysis of F1, F2, F3,M for three groups of students (anova)

	Source of variation	SS	Df	MS	F	Scheffe method
F1	between Groups	3.578	2	1.789	1.340	
	Within Groups	117.527	88	1.336		
	Total	121.105	90			
F2	between Groups	3.378	2	1.689	1.264	
	Within Groups	117.553	88	1.336		
	Total	120.931	90			
F3	between Groups	3.246	2	1.623	1.219	
	Within Groups	117.183	88	1.332		
	Total	120.429	90			

4.3   T Test of the Effect Gender

Gender differences slightly different for F1, F2, F3. In other words, the average score of male was generally higher than the average score of female but not up to par (Table 3).

Table 3. T test of the effect gender on F1, F2, and F3 in the study sample (N = 91)

Variable	item	N	M	SD	t
Gender	Female	83			
	Male	8			
	F1	83	8.29	.429	-1.040
		8	8.73	.590	-.756
	F2	83	8.27	.428	-1.200
		8	8.79	.558	-.920
	F3	83	8.26	.426	-1.441
		8	8.88	.520	-1.181

4.4   Construct Validity for F1, F2, F3

Construct Validity for F1, F2, F3, showed that communalities were higher than .5. The elgenvalue was higher than 1.0, factor loading was higher than .7, % of variance was higher than 50%. This conclusion showed that the way to constitute F1, F2, F3 from Q1 to Q9 were acceptable (Table 4).

Table 4. Construct validity for F1, F2, F3

Sub-scale	item	Factor loading	communalities	Elgenvalue	% of variance
F1	Q1, Q4, Q7	.718, .703, .745	.716, .731, .686	2.435	71.109
F2	Q2, Q5, Q8,	.707, .720, .864	.816, .806, .806	2.256	75.187
F3	Q3, Q6, Q9,	.748, .889, .843	.894, .742, .795	2.431	81.031

4.5 Reliability Analysis on F1, F2, F3

From this reliability analysis, the whole scale of F1, F2, and F3 values were .936.and α deletion of 9 items (Q1–Q9) in lower than .936, which showed the reliability). For the overall reliability analysis, the Cronbach α and the average value of F1, F2, and F3 were all together greater than 0.7. Therefore, this reliability analysis was reliability predictive (Table 5).

Table 5. Summary for reliability analysis on F1, F2, F3

Subscale	item	α if item deleted	α
F1	Q1, Q4, Q7	.718, .703, .745	.797
F2	Q2, Q5, Q8,	.707, .720, .864	.833
F3	Q3, Q6, Q9,	.748, .889, .843	.882
Whole scale			.936

4.6 Multiple Regression Analysis on Creativity Level

The F1,F2 and F3 in the multiple regression analysis model to "Creativity Level" showed that F value of the overall regression model reached 59.642 (p < .05), which showed that a significant correlation between the independent and dependent variables. Produced R^2 = .673, F = .820, suggested a statistically significant association between independent variables and the dependent variable (p < .05). It could be seen in Table 7, F3 (Visual Expression) scales had significant positive regression weight, indicated the design works with higher scores on the F3 was expected to have the strongest significant to "Creativity Level" (Table 6).

4.7 Multiple Regression Analysis on Preference Level

The F1, F2 and F3 in the multiple regression analysis model to "Preference Level" showed that F value of the overall regression model reached 71.106 (p < .05), which showed that a significant correlation between the independent and dependent variables. Produced R^2 = .710, F = .843, suggested a statistically significant association between independent variables and the dependent variable (p < .05). It could be seen in Table 8, F3 (Visual Expression) scales had significant positive regression weight, indicated the design works with higher scores on the F3 was expected to have the strongest significant to "Preference Level" (Table 7).

Table 6. Multiple regression analyses with fundamental relationsas the dependent variable (creativity level)

Dependent Variable	Independent Variable	B	SE	β	t
Creativity Level	F1	.790	.464	.690	1.701
	F2	-.892	.727	-.777	-1.226
	F3	1.049	.468	.913	2.241*
R=.820			R2=.673		F=59.642***

Table 7. Multiple regression analyses with fundamental relations as the dependent variable (preference level)

Dependent Variable	Independent Variable	B	SE	β	t
Preference Level	F1	.839	.478	.669	1.755
	F2	-.939	.748	-.749	-1.254
	F3	1.165	.481	.927	2.419*
R=.843			R2=.710		F=71.106***

4.8 Multiple Regression Analysis on Tradition Bamboo Culture Level

The F1, F2 and F3 in the multiple regression analysis model to "Tradition Bamboo Culture Level" showed that F value of the overall regression model reached 18.020 ($p < .05$), which showed that a significant correlation between the independent and dependent variables. Produced $R^2 = .383$, F = .619, suggested a closed statistically significant association between independent variables and the dependent variable ($p < .05$). It could be seen in Table 8, F3 (Visual Expression) scales had significant positive regression weight, indicated the design works with higher scores on the F3 was expected to have the strongest significant to "Tradition Bamboo Culture Level" (Table 8).

Table 8. Multiple regression analyses with fundamental relations as the dependent variable (tradition bamboo culture level)

Dependent Variable	Independent Variable	B	SE	β	t
Tradition bamboo culture	F1	.253	.565	.250	.449
	F2	-1.133	.884	-1.116	-1.281
	F3	1.491	.569	1.465	2.620*
R=.619			R2=.383		F=18.020***

4.9   Multiple Regression Analysis on Color Contemporary Application Level

The F1, F2 and F3 in the multiple regression analysis model to "Color Contemporary Application Level" showed that F value of the overall regression model reached 33.500 (p < .05), which showed that a significant correlation between the independent and dependent variables. Produced $R^2 = .536$, F = .732, suggested a statistically significant association between independent variables and the dependent variable (p < .05). As could be seen in Table 8, F2 (Q2, Q5, Q8) scales had significant positive regression weight, indicated the design works with higher scores on the F2 (Craftmanship) was expected to have the strongest significant to "Color Contemporary Application Level" (Table 9).

Table 9. Multiple regression analyses with fundamental relations as the dependent variable (color contemporary application level)

Dependent Variable	Independent Variable	B	SE	β	t
Color	F1	-1.067	.660	-.780	-1.615
Contemporary	F2	2.515	1.034	1.836	2.431*
Application	F3	-.478	.665	-.348	-.718
	R=.732		R2=.536		F=33.500***

5   Results and Discussions

The degree of "creative level" in the works of Q1–Q9 is prominent in F3 (Q3, Q6, Q9). This research selected 9 items (sub-factors) from "Alternative Material", "Material Emotion", "Model Shaping", "Technological novelty", "Fashion Application", "Innovative Performance", "Visual Expression", "Symbolic Representation" and "Taste Cultivation", to evaluate the degree of the of bamboo used in design work. The results of related research through quantitative analysis after the questionnaire surveys showed that 9 sub-factor of "Fashion Application" (Q5) (8.43) is the highest scores, and "Taste Cultivation" is the lowest from 9 items.

Generally, the scores of 9 items all exceed 8 points, indicating that the scores of the 9 items of the works are not too far apart. Besides, the "Fashion Application" (Q5) (8.43), "Visual Expression" (Q3) (8.38) and "Alternative Material" (Q1) (8.37) are the first three important ranking to the design works from 9 sub-factors. Mean of F1, F2, F3 (or Q1–Q9) was 8.30. Simultaneously, 9 items are distributed into 3 factors of "Material", "Craftmanship", and "Style", showing that the sub-factors that affect the level of "creative", "preference", "traditional bamboo weaving cultural characteristics", in the work are from "Visual Expression" (Q3), "Symbolic Representation" (Q6) [9], and "Taste Cultivation" (Q9). Another sub-factors affected for "Contemporary application of colors" are "Technological Novelty" (Q2), "Fashion Application" (Q5), "Innovative Performance" (Q8).

The result can be used as a reference for subsequent performance research in bamboo. F1 for "Material-Media expression" (Q1, Q4, Q7), F2 for "Craftsmanship-Formation"
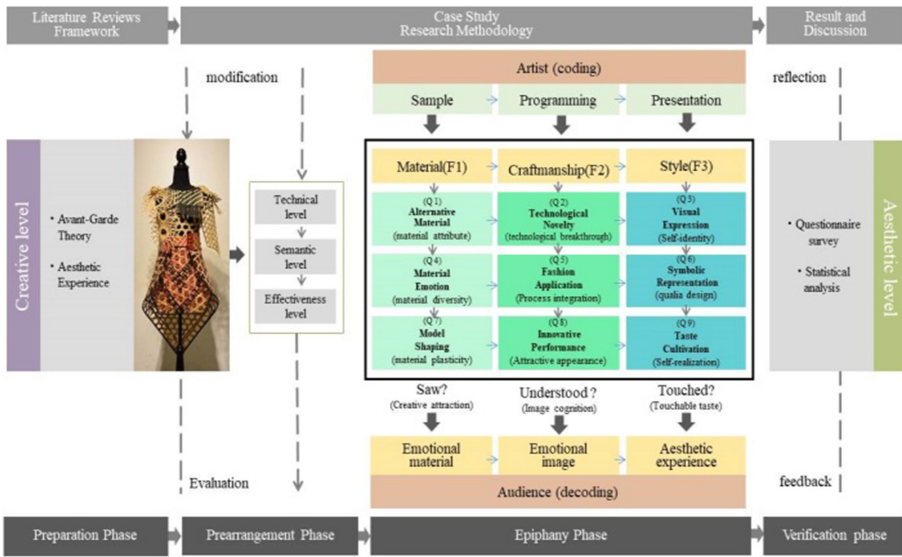
Fig. 5. The schematic diagram of bamboo fashion design and research model

(Q2, Q5, Q8), F3 for "Style-Aesthetics" (Q3, Q6, Q9) showed significant differences for the three groups of questionnaire test. Through variation analysis for T Test of the effect gender, the average score of male was generally higher than the average score of female, but not up to par. Construct Validity for F1, F2, F3 tested could be acceptable. Reliability Analysis was reliability predictive. Multiple Regression Analyses on level of "Creative", "Preference", "traditional bamboo weaving cultural characteristics" and "Color Contemporary Application" had showed the strongest significant to the research. Through the development of the theme research, a complete research framework diagram was established as follow: (Fig. 5).

Among the many unorthodox materials to engage in image styling creation, bamboo was one of the few that used on overall image design products. Most of the reasons focusing on bamboo was due to its toughness physical function to aesthetic function [3]. Through the questionnaire survey we concluded that bamboo materials can be used as the material or design in fashion styling industry. It provided an aesthetic discussion of the application of unconventional materials as a media with pleasure images [4] in human image appearance design.

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