RAE2020
Creation of Conceptual Design Process Model and its Application on Developing High-Fashion Collection

Dr. Sau-Chuen Joe AU
ITC PolyU – Centre 38

10.2019

Creation of Conceptual Design Process Model and

its Application on Developing High-Fashion Collection

1. Descriptor

As materials and other cultural and social issues become larger, more complex design methods need to draw on and be better articulated that they have been developed in field of fashion design. There is a convergence in design process developments as the choices and other matters become more expansive through the materials on offer, cultural and gender shifts in identity and that fashion is indeed more and more like a personal architecture. Hence, it requires a more sophisticated development of both design research and also design approaches. So there is a convergence about creativity and fashion design needs to 'step up' to this challenge even in mass fashion. As the existing models of creative processes tend to illustrate the diversity of the process and provide a broad description of the design process, there is an obvious knowledge gap in the subject of conceptual fashion design.

The stratified random sampling technique was adopted in this study. A total of 100 respondents were invited to an in-depth interview, including 50 fashion and textile design postgraduate students (1st group), and 50 competent designers (2nd group) in fashion design. In the first phase of analysis, the coding process was designed to capture the relations identified in the design process used by each target group. Hence, the turn-structured protocol data of the design discourse activities were coded in terms of the proposed design process model. In the second phase of analysis, the predicted relationships of the design process used in each target group were consolidated. Two conceptual fashion design process models (one model for postgraduate fashion design students and one model for fashion designers) were developed. Finally, by integrating the above two models, a finalised conceptual fashion design process model was then formulated and a high-fashion collection of six outfits was also created.

2. Author Biography

Joe Au's research focus includes the development of fashion design theory and its application on different fashion domains. As a researcher and practitioner, he aims at solving design problems through adopting practice-based research methodology.

3. Research Outputs

The body of work comprises of:

- One conceptual fashion design process model of postgraduate fashion design students.

- One conceptual fashion design process model of fashion designers.

- One finalised conceptual fashion design process model.

- One high-fashion collection of six prototypes based on the finalised conceptual fashion design process model.

- One refereed journal paper of conceptual fashion design process model was published on 17 April 2018.

- One refereed journal paper of high-fashion collection was published on 30 August 2018.

4. Research Questions

The research sets out to investigate:

- What is the interconnection between all applied design fields and conceptual fashion design?

- What is the creative process that describe the nature of product development in the domain of conceptual fashion design?

- How can a fashion-textile collection be created by adopting the developed conceptual design process model?

5. Research Field & Key Works Referenced

A designer's job is prescriptive rather than descriptive. When scientists describe how the world is, designers suggest how it may be. All designers are "futurologists" to some extent (Lawson, 2006). Like the future, design can never be an end in itself. The design process becomes the way designers respond to this variable problem structure. A structured design process helps designers as markets become increasingly aggressive; companies' use of team formats for solving problems is increasing, and developing fashion products becomes more complex. Therefore, studying how controlling and varying these design process is one of the most important skills a designer must develop. Models and theories of design process were proposed and studied by researchers in different design disciplines.

Increasing attention has been given to the revolutionary conceptual design in fashion industry. A number of influential designers had stepped out of the commercial side of fashion in reaction to the need for constant renewal. Those designers are characterised as "fashion conceptualists". They embrace an innovative approach to fashion in keeping with their personal philosophies and approaches. Their "cultural shift, exploration and cross over" approaches marked the growing acceptance of fashion as conceptually and culturally significant practice. These fashion conceptualists insist on a holistic approach to their collections, and this includes a key role in originating and overseeing the development of radically novel fabrics and fabric sculptures. Those collaborations leave an exciting mark in both fashion and textile practice. The collections showcase the integration of innovative fabrics and impeccable craft. Designers, such as Hussein Chayalan, Issey Miyake, Zandra Rhodes, Dries van Noten, John Galliano and Vivienne Tam are characterised by this fashion dualism.

5. Research Field & Key Works Referenced

However, the design process of developing conceptual design remains a mystery. The distinction between garment designers and fabric designers becomes blurred when one examines the activities of 'fashion conceptualists' and 'high-fashion' designers. There are few publications found in both academic and industrial fields which describe the phenomenon of creative design dualism and its integrative design process.

Creativity is a highly complex context (Mumford & Gustagson, 1998; Perkins, 1988). Designers are always challenged by complicated thoughts during their creative process. Researchers and theorists devoted their effort to understand the subject of creativity. Model of design process is system thinking in naming a particular approach to understanding and solving problems. It helps the designer in developing creative design thinking based around the building-up of ideas.

Many fields such as education, psychology and philosophy use design processes to help develop creative thinking (LaBat & Sokolowski, 1999). The major fashion design models (Watkins, 1988, Lamb & Kallel 1992, Regan, Kincade & Shelden, 1998) were based on the theory of architecture and engineering design. The analytical framework was referred to Koberg & Bagnall's (1981) for the elementary steps involved in the design process: analysis-synthesis-evaluation.

Although the design process models which designers followed were similar and based on the similar concepts, design process may be varied with respect to different factors and stages. The focus on each process also varies according to the design field, such as architecture design, industrial product design and fashion design. This study examines various stages within each design process and sorts them according to their commonalties and applies them to the proposed theoretical framework of conceptual fashion design.

6. Research Methods & Materials

Methodology:
- This study adopted Johnson and Onwuegbuzie's (2004) mixed research process model and extends it into eight distinct steps, including 1) determining the research questions, 2) determining whether a mixed design is appropriate, 3) selecting the mixed-method or mixed-model research design, 4) collecting the data, 5) analysing the data, 6) interpreting the data, 7) legitimating the data and 8) drawing conclusions.
- The stratified random sampling technique was adopted in this study. This technique is used when the proportion of subgroups (strata) is known in the population and the selection is random yet from each of these strata.
- In this study, there were 2 groups of target sample populations involved.
- The first group included 50 fashion and textile design postgraduate students. The age range of the respondents was from 22 to 45. They participated in the design process of their final-year project with 6 outfit collections.
- The second group included 50 competent designers with 2 to 15 years' (mean= 6.44) experience in the fashion industry. The age range of the respondents was from 23 to 50. They were entitled designers or assistant designers in their employed companies.
- A total of 100 respondents were invited to an in-depth interview.

6. Research Methods & Materials

Data Transformation

The interview data were coded (Cross, 1992; Burns, 1994). The coding process was designed to capture the relations identified in the design process of the students' final-year projects and the designers' collections. Hence, the turn-structured protocol data of the design discourse activities were coded in terms of the proposed design process model.

A statement was coded as ANALYSIS if it:
- Expressed a pre-determined design requirement or problem briefly, which was coded as 'ANALYSIS REQUIREMENT'
- Expressed a need, want or wish generated by the designers, which was coded as 'ANALYSIS GOAL'
- Expressed a concept directed to the designers' problem/requirement or goal, which was coded as 'ANALYSIS DIRECTION'
- Expressed influential factors generated by the external parties, which were coded as 'ANALYSIS INSPIRATION'

A statement was coded as SYNTHESIS if it:
- Suggested a possible or provisional design proposal in response to the brief, particular requirements, a problem or a goal, which was coded as a 'SYNTHESIS SOLUTION'
- Suggested a possible design collection without response to the proposed solution, which was coded as 'SYNTHESIS DESIGN'
- Suggested a possible design collection in response to the proposed solution, which was coded as 'SYNTHESIS DESIGN SOLUTION'

A statement was coded as EVALUATION if the outcome was:
- Negative – a problem arose from an evaluation in which a solution was in conflict or inconsistent with an 'ANALYSIS', and then regenerated in the cycle of the design process
- Positive – if an agreement acknowledged a solution or design with a given 'ANALYSIS'
- Positive Repeat – an agreement same as 'Positive' to regenerate in the cycle of the design process for the next collection

Each reduced statement from the interviews was coded in categories/ sub-categories: analysis requirement (AR), analysis goal (AG), analysis direction (AD), analysis inspiration (AI), synthesis solution (SS), synthesis design (SD), synthesis design via solution (SDS), evaluation negative repeat (ENR), evaluation positive (EP) or evaluation positive repeat (EPR). After coding the transcripts, the steps of the proposed theoretical framework were transcribed into a coding form.
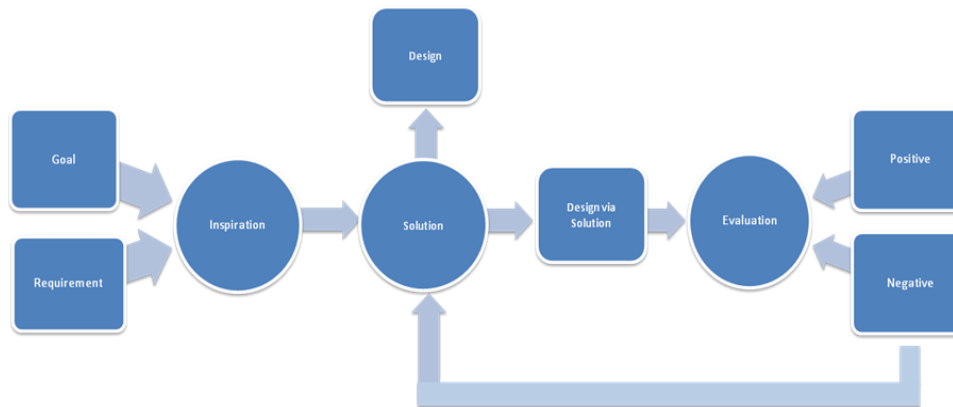
6. Research Methods & Materials

Data Consolidation
Group I: Fashion and Textile Design Postgraduate Students

All predicted relationships of the students' design process were found as follows:
- Analysis involving requirement (AR, 43% of all explicit statements)
- Analysis involving goal (AG, 90% of all explicit statements)
- Analysis involving direction (AD, 50% of all explicit statements)
- Analysis involving inspiration (AI, 92% of all explicit statements)
- Synthesis involving solution (SS, 94% of all explicit statements)
- Synthesis involving design (SD, 40% of all explicit statements)
- Synthesis involving design-related solution (SDS, 90% of all explicit statements)
- Evaluation yielding negative outcome and repeat (ENR, 96% of all explicit statements)
- Evaluation yielding positive outcome (EP, 60% of all explicit statements)
- Evaluation yielding positive outcome but repeat (EPR, 76% of all explicit statements)

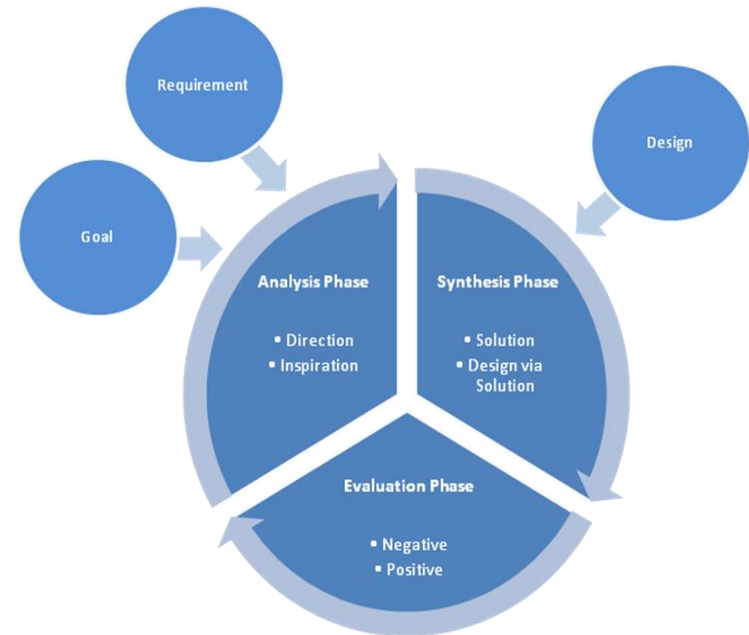Conceptual Design Process Model of Postgraduate Fashion Design Students

6. Research Methods & Materials

Data Consolidation
Group II: Conceptual Fashion Designers

All predicted relationships of the conceptual fashion designers' design process were found as follows:
- Analysis involving requirement (AR, 100% of all explicit statements)
- Analysis involving goal (AG, 96% of all explicit statements)
- Analysis involving direction (AD, 98% of all explicit statements)
- Analysis involving inspiration (AI, 98% of all explicit statements)
- Synthesis involving solution (SS, 100% of all explicit statements)
- Synthesis involving design (SD, 5% of all explicit statements)
- Synthesis involving design-related solution (SDS, 94% of all explicit statements)
- Evaluation yielding negative outcome and repeat (ENR, 96% of all explicit statements)
- Evaluation yielding positive outcome (EP, 60% of all explicit statements)
- Evaluation yielding positive outcome but repeat (EPR, 86% of all explicit statements)

Conceptual Design Process Model of Fashion Designers

7. Research Outcomes & Conclusions

By integrating the two design process models, the finalised "Conceptual Fashion Design Process Model" is:

Phase 1: Investigation Phase

The first phase is to find the key concept of the original objectives and to set a scenario that fits three levels: outer tangible level **(direction)**, mid behavioral level **(goal)**, and the inner psychological level **(inspiration)**. Based on the selected key concept, the scenario takes into consideration the overall environment in which the original objective is included. For example, it should include aspects of economic issues, social cultures or technological applications. In this phase, the designer seeks to analyze all the collected information in order to determine the key concept that can be applied to represent their collection.

Phase 2: Interaction Phase

The second phase is to focus on the synchronisation of designers and the developed scenario from the previous phase. Designers explore all the collected information in order to synchronise their distinctive ideas and thoughts into tangible information and then to define a margin that has conceptual meaning and style derived from the original objective. Therefore, an initial imagery of the designer's thoughts or creativity should be exposed in this step for further interaction with the designing team. A **solution** should be proposed at the end of this phase in response to the original objective or requirement suggested.

Phase 3: Development Phase

The third phase is to develop a design sketch including ideas and concepts in text or graphics based on the developed scenario or concept. During this phase, the scenario or concept may require modification for transforming the conceptual ideas into a logically and technically correspondent output. This phase also provides a means to confirm the possible design output **(solution)** in response to the proposed solution.

Phase 4: Evaluation Phase

The final phase deals with the previously identified conceptual features and the context of the design output. All conceptual features and deliverable messages from the designer are listed in a matrix table to help the designer to check the conceptual features applied to the design output **(positive or negative outcome)**. The designer needs to evaluate the features, meanings, aesthetics and appropriateness of the design output in response to the original objective, selected scenario and proposed solution. The designer may make changes to the design output based on the results from the evaluation, and may implement the prototype and conduct further evaluations or developments.

Finalised Conceptual Fashion Design Process Model

7. Research Outcomes & Conclusions

One High-fashion Collection of Six Prototypes

Stage 1:
The Immature Stage (Design Output 1 and 2)
The design features were derived from the outer level of bohemian culture with material, colour, form, texture, surface, pattern, decoration and details.

The outer level features were illustrated by chaotic and disorganized decorations, which were based on the pattern of floral, checks, lines and dots. These chaotic pattern compositions of symbolic meanings could be used as design elements and transferred to innovative textiles.

Childhood memories were similar to a collage of swatches. Pieces of memories were combined like a multi-patchwork of fabric. The designer transformed the proposed concept through garment materials and taking sculpture into the realm of garment.

Design output 1

Design output 2

7. Research Outcomes & Conclusions

Stage 2:
The Premature Stage (Design Output 3 and 4)

The mid level of design features focused on bohemian behaviour and the scenarios in which the designer adopted bohemian culture on different occasions in teens. It was noted that bohemian lifestyle was confusing but self-satisfactory.

The patchwork of music, artworks, movies, poems, sculptures reflected a bohemian's everyday lifestyle and culture. "Bohemians felt the need to express and assert themselves at a social and economic disadvantage. It was almost as if they flaunted their marginality by practicing an alternative and contrasting lifestyle - bohemians undermined the bourgeois" (Seigel, 1986, p.183).

Design output 3   Design output 4

7. Research Outcomes & Conclusions

Stage 3:
The Mature Stage (Design Output 5 and 6)

This stage was derived from the inner level of bohemian stories and history and focused on the symbolic qualities and their influence on the past century. The present life adventures and experiments in Asia of the researcher have conceptualised into the third stage of the collection. Silhouette and textile compositions became less confusing, which indicated an interface of growth.

"Basically, every counter-culture movement in history follows a certain cycle. Beginning to turn the revolutionary movement becomes *chic*, and some members of the dominant culture may even descend into the counter-culture voluntarily, creating a second generation of the movement. This was the case with the bohemians of 19th century Paris as it was with the Hippies of 1960's America, and so on" (Seigel, 1986, p.193).

Design output 5   Design output 6

7. Research Outcomes & Conclusions

This was an initial research study carried out a theoretical framework and developed a model of design process that is inclusively to conceptual fashion design. The new knowledge raised from the findings are: 1) the demystification and identification of conceptual fashion design and its creative system, 2) the formation of theoretical framework of design process in conceptual fashion, 3) the developments of model of design process that is generic to conceptual fashion design, by rationally integrated professional knowledge from different design domain into a systematic model, and 4) the creation of a high-fashion collection by adopting the well developed conceptual fashion design process model.

The worlds of fashion and textile design have become increasingly close and reliant on one another. Today's fabrics, because of the way they are produced and the applications they are designed for, allow designers greater freedom to explore issues other than simply the conventions of silhouette and style. Fashion designers understand that the future of their profession lies to a great extent in the selection of fabrics. Advanced textile technology has yielded new aesthetics, tactile qualities and performance capabilities. Traditional crafts such as knitting, weaving, embroidery and intricate hand detailing are employed alongside sophisticated new treatments. High technology coatings, laser-cutting and the latest microfiber fabrics, shape memory alloys and technical clothes are all being appropriated from industrial applications. Against this background, textile's engagement with innovative fashion design is surprising and yet the hybrid forms that result are revolutionary. Not only the subject of fashion design and textile design has become more diverse, collaborative, and interdisciplinary, some high-end designers are further react against the commercial focus of contemporary fashion, moving away from the traditional fashion cycle, seasonal restrictions, and market-led processes towards a more conceptual, experimental, and process-driven approach.

8. Dissemination

[Refereed Journal Publications]

- Au, J.S. & Au, Y.H. (2018). Creation of Conceptual Fashion Design Process Model. Journal of Fashion Technology & Textile Engineering, 6(2), pp.1-8. DOI: 10.4172/2329-9568.1000171.

- Au, Y. & Au, J. (2018). Development of Innovative High-Fashion Collection via Conceptual Design Process Model. Journal of Textile Science & Fashion Technology, 1(2), pp.1-7. DOI: 10.33552/JTSFT.MS.ID.000507.

9. References

- Johnson, R.B., Onwuegbuzie, A.J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. Educational Researcher, 33(7), pp.14-26.
- Koberg, D., Bagnall, J. (1981). The Universal Traveller: A Soft-Systems Approach to Creativity, Problem-Solving and the Process of Reaching Goals. Los Altos, CA: William Kaufmann.
- LaBat, K.L., Solkolowski, S.L. (1999). A Three-stage Design Process Applied to An Industry-University Textile Product Design Project. Clothing and Textiles Research Journal, 17(1), pp.11-19.
- Lamb, J.M., Kallal, M.J. (1992). A Conceptual Framework for Apparel Design. Clothing and Textiles Research Journal, 10(2), pp.42-47.
- Lawson, B. (2006). How Designers Think: The Design Process Demystified, 4th ed. Burlington, US: Elsevier/ Architectural.
- Mumford, M.D. Gustafson, S.B. (1988). Creativity Syndrome: Integration, Application and Innovation, Psychology Bull.
- Perkins, D.N. (1988). The Possibility of Invention. In The Nature of Creativity (edited by R.J Sternberg). New York, NY, USA: Cambridge University Press.
- Regan, C.L., Kincade, D.H., Shelden, G. (1998). Applicability of the Engineering Design Process Theory in the Apparel Design Process. Clothing and Textiles Research Journal, 16(1), pp. 36-46.
- Seigel, J. (1986). Bohemian Paris: Culture, Politics, and the Boundaries of Bourgeois Life, 1830-1930. New York: Elizabeth Sifton Books.
- Watkins, S.M. (1988). Using the Design Process to teach Functional Apparel Design. Clothing and Textiles Research Journal, 7(1), pp.10-14.