

A Study on Fashion Design Pedagogy for the Development of Creativity -With Emphasis on Intuition-

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창의력 개발을 위한 패션디자인 교육 방안 연구 -직관력을 중심으로-

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Abstract

This study examined the pedagogical approaches on the development of creativity in fashion design education for the 21st century. In this paper, the concept of the creativity was analyzed with the purpose of devising detailed educational methods by investigating into cognitive and pedagogical natures of the constituents of creativity. One of the most crucial aspects of the creativity is problem solving capability and it was reviewed how creative problem solving capability is applied to the areas of arts and designs. This study particularly explored the specific roles intuition plays in the development of creativity. Insights are very important in enhancing and maintaining creativity and it was shown that intuition can stimulate and reinforce the insights. Also it was suggested was that the development stages of intuition are consistent with the development sequences of creativity in arts and designs. Recommendations for further studies were included.

Key words: Creativity, Intuition, Digital technology, Fashion pedagogy, Originality; 창의성, 직관력, 디지털 기술, 패션교육, 독창성

I. Introduction

In the case of fashion industry, whereas the 20th century had been marked as an age of mass production with timely distribution efforts to numerous customers, 21st century is expected to be an era of designs for

specified purposes in order to satisfy increasingly fastidious customers(Cholachatpinyo et al., 2002). In conjunction with these radical, but inevitable changes, dominant features of designing in the upcoming era are thought to be individuality and diversity(Lee & Yang, 2002). By considering the evidence manifested in various types of products and opinions of experts in designing areas(Finkelstein, 1996), it is evident that products with superior yet individualized designs and high brand values will be able to access the future market more efficiently.

Supporting these important economic and aesthetic trends for the future, several studies(Kean, 1997; Park, 1998) claimed that creativity will reinforce

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its importance as a significant means to formulate crucial developing paradigms in design specialties(Finke, 1990).

In the fashion industry, particularly, the creative designing is believed to play an immensely significant role in deciding the commercial success in the market(Jasson & Smith, 1991). In an effort to facilitate and assist the development of the fashion designs, the relevant fashion design education needs to be tailored to stimulate and ameliorate creativity of future designers. However, it has been constantly observed that there is a lack of collaboration between research efforts in creativity and its application to fashion design education(Park, 2004).

This study is a partial response to this gap by exploring the natures of creativity in order to apply them to fashion design pedagogy for optimum educational effects. Particularly, this paper aims to investigate into the development of intuition, which has been considered to be an important constituent of creativity(Barron, 1998), but has not been fully investigated in connection with the development of design teaching methods.

II. The Development of Creativity

1. The Concept of Creativity

Many experts in creativity research have devised

various notions of creativity and there are significant differences among each definition. One particular and unique definition made by Richards(1997) is that creativity is an escape from mental adherence to established values and ideas. Consistent with this concept, it has been claimed that creative people are not making something out of nothing, but making something out of something with ingenuity(Torrance, 1981). Furthermore, one of the most crucial and important constituting factors in creativity is probably creative problem solving capability. Guilford(1950) earlier explicated that “a creative act is an instance of learning...[and that] a comprehensive learning theory must take into account both insight and creative activity.”

People with creativity usually make contribution in attempting to solve inherent and recurrent problems in the areas of engineering, management, the development new products and marketing. However, in spite of lately developed models and techniques on creative problem solving(CPS), there has not been in-depth and full-scale research on application of this capability to education, particularly on fashion education. Fasko(2000) claimed that creativity can be attained by people who had never had a chance to obtain before. Once obtained, it would be channeled into positive directions. This indicates that acquisition of creativity can be facilitated by adjusting obtainable consequences and it also suggests possibility

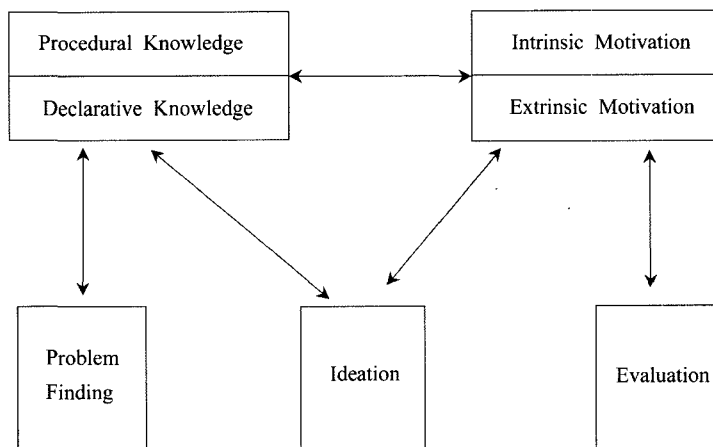


Fig. 1. Two-tier model of creative thinking

and necessity of adequate instruction(Parnes, 1992). By combining educational and cognitive aspects of creativity, Runco and Chand(1995) came up with a creative thinking model that integrates knowledge and motivation component of the creativity as shown in the <Fig. 1>.

2. Creativity in Arts and Designs

Martinsen(1995) summarized problem solving as a set of cognitive processes that involve formulating a problem, adopting a method of solution and devising a solution. The process of making the artwork may involve problem-finding and problem-solving processes, but it needs individual and specific approach to each case to find out what kinds of problem-finding procedures in particular are more associated with higher evaluation of creativity. These procedures are believed to be differentiated by expertise and the level of development of the artists' personal aesthetic taste. In terms of creative problem solving capability in fashion clothing education, Chung(2001) suggested a creative problem solving instruction model as in the <Fig. 2>.

Few Studies have attempted to understand and describe what artists actually do during the creation of an artwork. Mace(1997) studied the processes

involved in the creative art making by gathering data extensively from actual artwork productions. The research provides a valuable insight into a process of how creativity combined with artistic purposes and intentions are working properly.

On the other hand, Marsh and Vollmer(1991) modeled the experience of the creative processes after questioning 25 professional artists and authors about their art production processes. Moreover, Cawelti et al.(1992) modeled a creative processes over time, placing 5 artists' experience with a lapse of time. In spite of the difficulty of the agreement on the reconstruction of the actual creative processes, these studies shed some light on the comprehension of art creative processes. Individual re-search with the similar orientations provides information about the creation processes of active art producers.

Dudek and Cote(1994) found that problem finding is not unique to creative thinking but rather a normal part of task involvement, and thus problem-finding and problem-solving procedures could not differentiate between artists and non-artists in terms of creativity. Getzels and Csikszentmihalyi(1976) observed fine art students drawing activities under experimental conditions and found that students who engaged in an extended problem-formulation process, produced work that was evaluated as more creative compared with students who were not able to verbally define the artistic problem soon after drawing began.

The artwork idea is extended and reconstructed as the artist engages in a range of decision-making, problem-solving, information gathering, experimental and evaluative activities. In the next stage, the artist begins work in the physical appearance of the work. The abstract art concept takes on certain physical constraints. On the other hand, the physical metamorphosis of the work influences the concept of how and what the work expresses. During this phase, the work may undergo quite a change as the artist begins to negotiate with its physical parameters. The research demonstrates that creativity can be meaningfully identified in the broader process of art production rather than in the separate components of the processes of creativity. In order to illustrate the general processes in creation, below is a general model

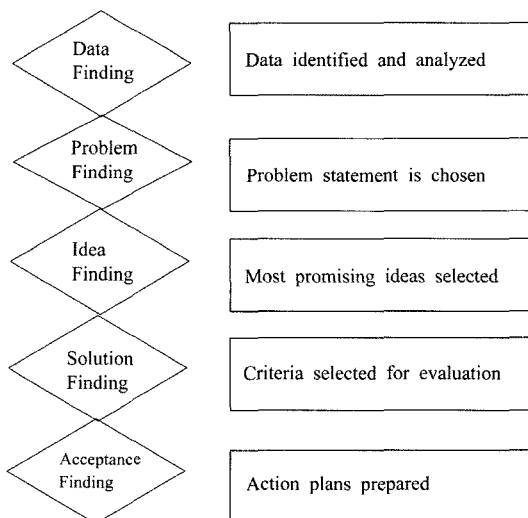


Fig. 2. Five steps of CPS model

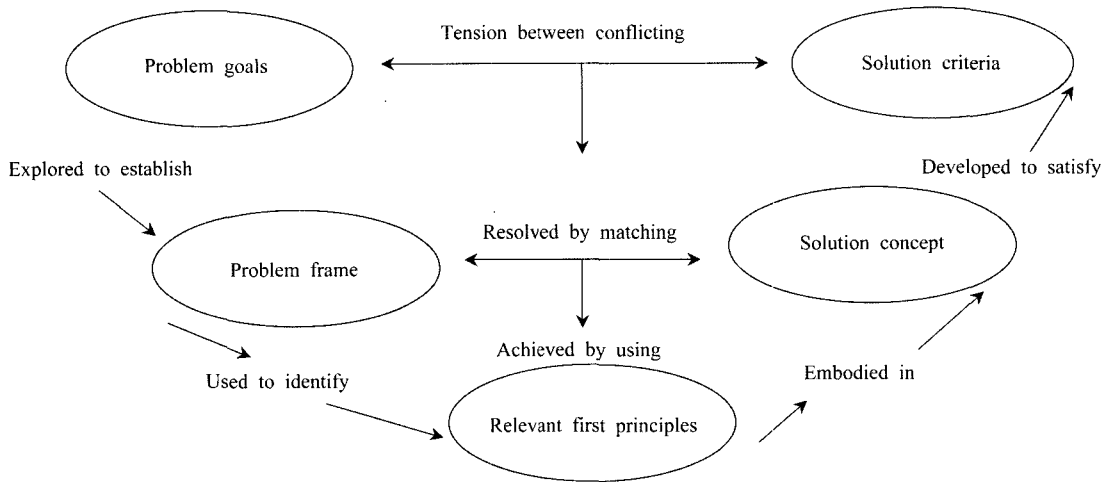


Fig. 3. General model of creative process strategies followed by all three designers

of creative process strategies done by three designers in a study on the creative cognition in design(Cross, 2002).

3. Conditions to Foster Creativity

Psychologist Guilford(1950) has raised a question why there is little correlation between education and creative productiveness. Later he further observed that "The problems of creativity in the educational settings are endless, and the scope of research in this area is rapidly spreading." Here are several components considered essential for developing educational basis for creativity development.

1) *Insight*

According to Davis & Rimm(1985) and Martinsen (1995), students who solve insight problems required know-how to use an object in some unusual ways to come to a solution with problem restructuring. Martinsen believed that creativity is related with the ability to handle tasks with high novelty.

2) *Metacognition*

Davis(1991) asserted that "It is... important to help students metacognitively(understanding how their own intellectual resources are working) to understand the concept of creativity." Runco and Chand(1995) sug-

gested that educators devote more time to teach students that problem finding skills are as important as problem solving skills.

3) *Learning Theory*

According to learning theories developed since 1960s, thinking is a constructive process(Houtz & Krug, 1995). In addition to this, Treffinger(1980) developed a model of creative learning composed of three levels of divergent functions, complex thinking and feeling processes, and involvement in real challenges.

4) *Important cognitive features of creative people*

Followings are some of the important cognitive features pointed out by many experts.

- (1) Tolerance for ambiguity(Perkins, 1998)
- (2) A tendency to play with ideas(Hennessey & Amabile, 1988)
- (3) Unconventionality in behavior(Barron, 1988)
- (4) Intuition(Barron, 1988)

Very little research, if any, has been devoted to the relationship between the development of intuition and creativity. In this study, the concept of intuition and its application to the development of creativity will be explored with pedagogical implications.

III. The Development of Intuition

1. The Concept of Intuition

According to one study(Koestler, 1964), Intuition is understood as a situation in which a new insight is realized suddenly. Boucouvalas(1997) defined intuition as “direct knowing that seeps into conscious awareness without the conscious mediation of logic or rational process.” As has been emphatically explained, an insight is an important precursor of creativity. As an example encountered occasionally, a scholar found links between his/her own study and those of others. With this finding, he/she can devise a meaningful and new breakthrough in their own research. Bruner(1963) explained that intuition is a type of intellectual technique that can lead to very plausible, but unfinished ways of thinking. Epstein (1994) argued that information processing method of intuition is rather *experiential* influenced by emotions than efficient and rational way of thought. Intuition plays a very important role for students with high intellectual caliber. In supporting this, intuition has become a major part in curriculum development for gifted children in the USA(Brown & Wolf, 1986).

Intuition is regarded by some Russian psychologists(Granovskaya & Bereznaya, 1991) as simultaneous interaction between the right and left hemisphere of the brain. The analogy employed by Granovskaya and Bereznaya(1991) to explain processes involved in intuition is as follows. When “intuition” is activated, a kind of “bridge” is established in order to secure an interchange of information stored in the two different “storage rooms”, or hemispheres. Each “room” contains unique material. The “bridge” is necessary in order to be able to make them work simultaneously. In other words, *intuition* enables a full utilization of cognitive resources of human brain, hence conducive to the initiation of creativity.

Baylor(1997) studied the constituents of intuition and has developed a model of intuition as seen in <Fig. 4>. According to this model, intuition is composed of immediacy, sensing relationships and reasoning. Reasoning plays an important role of grasping instant comprehension of the situation(Noddings &

Shore, 1984). Sensing relationship means finding out linkage among components in given situations or tasks. According to Noddings and Shore (1984), inferencing and intuition are inter-complementary. While analytic ability is dependent on concepts represented by analyzed objects, intuition ability focuses on objects themselves. Intuitive way of thinking directly influences analytical way of thinking. Through analytical way of thinking, evidence and answers are sought, but through intuition, understanding on relationship among objects is obtained. Intuition acts with combination of analysis. In fact it seems to act in contrast to analytical way of thinking. Conversely, intuition helps ingenious and creative invention.

Intuition is mediated by inferencing capability. Insight is a component of intuition. Intuition is understood as sum of insight and inferencing ability. As seen in the model, the most central mechanism to produce analogy and to establish a relationship is inductive way of thinking. Inductive way of thinking enables learners to comprehend the whole picture out of parts. It is also possible to render generalization out of specific conditions and requirements. By considering a relationship between spontaneous nature of intuition and inferencing, the most crucial element of intuition is that it can be related to an immediate action(Fischbein, 1975). While metacognition entails

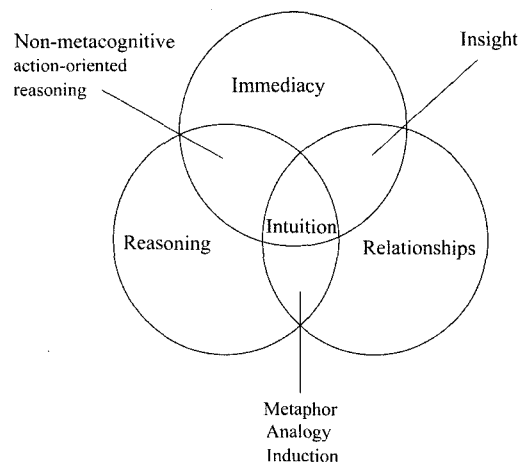


Fig. 4. The three components of intuition: immediacy, sensing relationships, and reasoning

consideration prior to action, intuition requires spontaneous actions.

2. Creativity and Intuition

Traditionally, in the arts, intuition has always been regarded as representing inspiration or the creative sources (Inglis, 1987). In relation with the inherent theme of the present study, Welling (2005) argued the creative role intuition plays in the construction of knowledge. The most common feature many scientists argue is the role intuition plays as an important guiding principle for finding solutions to problems. Another important phenomenon Hadamard (1945) earlier described is the appearance of images, or kinesthetic feelings, which contain guidelines for the solution of problems.

Welling (2005) identified different meanings for intuition as follows:

- 1) an experienced scientist's feelings of direction;
- 2) a sense of solution;
- 3) knowledge that something about a solution is wrong or lacking;
- 4) the appearance of meaningful visual images;
- 5) the sudden appearance of a solution at an unexpected moment;
- 6) artistic inspiration and creativity

It is significantly noteworthy that in the area of psychology, in which cognitive and metacognitive aspects of human consciousness is studied, the concept of intuition contains the artistic inspiration and creativity. Furthermore, Schooler and Melcher (1995) suggested that intuition can be best described by pattern matching and the insight is based on pattern recognition. It has been shown that insight is a very important aspect of creativity. Therefore, intuition is conducive to the insight.

Related with this notion, Root-Bernstein (1997) argued that, "in essence, intuition is the ability of sensing an underlying order in things, and thus is related to another mental tool that is indispensable to the working scientist: the perception of patterns, both visual and verbal." If intuition is based on pattern recognition functions, it can be inferred that intuition consists of two forms, the recognition of a known

pattern, and the diversion from a common pattern. This definition of intuition is consistent with a general creative process strategies in designing as in the <Fig. 3>.

IV. How to develop creativity through the development of intuition

1. Principles of Creative Thinking with an Intuitive Approach

As Treffinger (1980) reported on psychological principles, creative behaviors should include; 1) strategic thinking in problem solving; 2) thinking about thinking and learning would facilitate creative and critical thinking; 3) Intrinsic motivation, creativity and high-order thinking are stimulated by authentic learning tasks and novelty. According to Dudek and Cote (1994), the process of creativity in art making certainly involves problem-exploration behaviors, but those behaviors are directed by a constantly evolving personal aesthetic that is much more than just problem solving.

According to Treffinger (1980), creativity is related to the discovery process. It was suggested that "experience with discovery learning enhances creativity performances by forcing the learner to manipulate the environment and produce new ideas. In the inquiry-discovery approach to teaching, creative processes of fluency, flexibility, elaboration, and originality are incorporated together.

As the detection and development of intuition have been recognized as crucial processes of creativity development, an attempt will be made to match the development phases of intuition (Welling, 2005) and the inquiry-discovery phase of the creativity development (Treffinger, 1980) as described in the following table. In the first stage of the development, in the case of intuition, generally, there is a feeling of uneasiness while in the first stage of inquiry-discovery level of creativity development, a desirable action may be providing a chance for students (learners) to inquire about a problems, concepts or ideas.

As the stages proceed, it is evident that intuitive processes are advancing toward more clear-cut un-

Table 1. Comparison of the development stages

Phase	Intuition	Inquiry-discovery of creativity
1	Detection phase: attention. Feeling that something is happening or present. Sometimes a feeling of confusion, alertness or being disturbed.	Provide the initial experience to interest students in inquiring about a problem, concept, situation, or idea.
2	Dichotomous awareness phase: Feeling that something is wrong or that a solution is at hand.	Provide the students with manipulative situations and materials to begin avenues of exploration. Supply information sources for students' questions.
3	Related Object Phase: Able to identify elements that one senses or knows to be relevant. identify some concrete elements of ideas connected to an eventual solution	Provide materials and equipment that will spark and encourage student experimentation and production. Provide time for students to manipulate, discuss, experiment, fail, and succeed.
4	Metaphorical solution phase: Becomes clear how the elements identified in the phase 3 are important. the solution itself now revealed, but still not clear-cut.	Provide guidance, reassurance, and reinforcement for student ideas and hypotheses
5	Explicit Verbal Understanding Phase: The meaning of the intuition is now completely clear. Able to identify the elements that made the proposed metaphor or concept fit.	Reward and encourage acceptable solution strategies. A supportive positive climate will generate the good results.

derstanding of the situations or concepts encountered. What is important in the inquiry-discovery stage is active encouragement and participation in the “finding the solutions” processes. Even though the very nature of these development is on-going development, it is expected that in the final stage, efforts culminate in finding adequate solutions for each cognitive endeavor. The detailed comparison of these processes are shown in the <Table 1> below.

2. Pedagogical Approaches to Creativity

Torrance(1981) argued that the purpose of creative teaching is to create a “responsible environment” through high teacher evaluation and appreciation of individual differences. Based on Feldhusen and Treffinger's(1980) recommendations for classroom environment pertinent for creative thinking and a review on intuition in cognitive development, following pedagogical suggestions were made in the realm of fashion design teaching.

1. Support and reinforce unusual ideas and responses of students.
2. Failure as a positive to support students so that they can notice errors and meet acceptable standards in a supportive atmosphere.
3. Adapt to student interests and ideas in the classroom.

4. Give students time to think about and develop creative ideas.
5. Create a climate of mutual respect and acceptance between students and teachers so that students can share, develop and learn together and from one another as well as independently.
6. Be aware of many sides of creativity in other disciplines than arts and crafts.
7. Provide divergent and various learning resources.
8. A warm, supportive atmosphere for freedom and security for exploratory thinking.
9. Have students participate in the decision-making process. Let the students have a control of their education and learning experiences.
10. Encourage everybody's involvement to demonstrate the value of involvement by supporting student ideas and solutions to problems and projects.

V. Conclusion

In this paper, various attempts were made in order to identify the concept of creativity and its possible applications to the fashion design teaching. Special emphasis was placed on the efforts to identify the constituents of intuition as an important contribution to the development of the creativity. It is hoped that

further studies will be devoted to investigate a connection between these two important cognitive phenomena.

In this study, it was discovered that creativity has its own characteristics and developing patterns. Furthermore, it was noteworthy that the creativity can be taught with appropriate education and training. In this study, it was claimed that the further exploration of the natures of intuition and its connections with the insightful problem solving capabilities can enhance the efficiency in creative production of artworks and designs.

Even though the on-going progress of technology in the 21st century is remarkable, it is becoming evident that technology itself cannot change the world. What actually changes the world via technology is creativity. In the area of fashion designing, it is believed that the creativity is an essential element for the commercial success in the future market. In order to expedite the development of the fashion designs, the fashion design education for the future designers needs to be geared to the development of creativity.

This study pointed out a lack of efforts in applications of research in creativity to fashion design education. As a possible solution, this paper proposed that the development of intuition can be linked to the development of insightful solution capability, which is one of the key elements of creativity. It is anticipated that detailed instructional methods on the basis of theories and principles discussed in this article will be further studied in the future.

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요 약

이 연구의 목적은 21세기의 패션디자인 교육 활성화를 위한 창의력 개발 방안을 연구하는데 있다. 연구는 창의력에 대한 개념을 확립하고 구성요소들의 인지적이고 교육적인 특성을 파악하여 구체적인 교육방안을 제시하고자 했다. 창의력의 가장 중요한 요소는 문제해결 능력이며, 이 문제해결 능력의 배양 방법에 대한 기존 연구의 결과를 종합했다. 특히 예술과 디자인 분야에서 창의력 문제해결 원칙이 어떤 식으로 적용되는지를 살펴보고 교육 모델을 제시하였다. 이 연구에서는 그간 다른 연구에서는 널리 연구되지 않았던 창의력에서의 직관력(intuition)의 역할과 기능을 자세히 살펴보았다. 창의력의 중요한 요소 중의 하나가 통찰력(insight)이고 직관력이 통찰력을 증진시킬 수 있는 원동력이 될 수 있음을 제안했다. 또한 예술과 디자인 분야에서의 창의력의 발달단계는 직관력의 발달단계와 일관성이 있음을 밝혔다. 이 연구 결과를 바탕으로 직관력의 발달과 문제해결 방안을 통한 창의력 개발 방안의 후속연구를 통해 실제 수업 모형 개발 및 연구를 제안한다.
