A SYSTEMATIC APPROACH TO TEXTILE DESIGN: AN EXPERIMENTAL STUDY

Pinar ARSLAN*, Ozge OZTURK

Ankara Hacı Bayram Veli University, Faculty of Art and Design, Department of Textile Design, 06830, Ankara, Türkiye,

pinar.arslan@hbv.edu.tr, ozturk-ozge@hbv.edu.tr

Received: 04.03.2026 Accepted: 21.09.2026 https://doi.org/10.24264/lfj.26.3.2

A SYSTEMATIC APPROACH TO TEXTILE DESIGN: AN EXPERIMENTAL STUDY

ABSTRACT. Systematic creativity models provide structured frameworks for defining design problems, generating ideas, and evaluating solutions. Among these models, Osborn's Seven-Stage Theory offers a step-based process that supports creative thinking and problem-solving. This study aims to examine the applicability of Osborn's model in textile pattern design through an experimental approach. The research was conducted with second-year students from the Textile Design Department at Ankara Hacı Bayram Veli University. Within the scope of the study, seven students developed textile pattern designs by systematically applying the stages of Osborn's model. The resulting designs and processes were analyzed in terms of originality, conceptual consistency, and creative diversity. The findings indicate that the structured implementation of the model enhances systematic thinking, supports creative exploration, and contributes to the development of more original and coherent textile patterns. The study proposes a methodological framework for integrating systematic creativity models into textile design practice and education, thereby contributing to innovation-oriented design processes in the textile field.

KEY WORDS: digitalization; fabric design; innovation; creative process; pattern

O ABORDARE SISTEMATICĂ A DESIGNULUI TEXTIL: STUDIU EXPERIMENTAL

REZUMAT. Modelele sistematice de creativitate oferă cadre structurate pentru definirea problemelor de design, generarea ideilor și evaluarea soluțiilor. Dintre aceste modele, teoria în șapte etape a lui Osborn propune un proces etapizat care susține gândirea creativă și rezolvarea problemelor. Acest studiu își propune să examineze aplicabilitatea modelului lui Osborn în designul de modele textile printr-o abordare experimentală. Cercetarea a fost realizată cu studenți din anul al doilea de la Departamentul de Design Textil al Universității Ankara Hacı Bayram Veli. În cadrul studiului, șapte studenți au dezvoltat modele textile aplicând în mod sistematic etapele modelului lui Osborn. Modelele și procesele rezultate au fost analizate din perspectiva originalității, coerenței conceptuale și diversității creative. Rezultatele indică faptul că implementarea structurată a modelului îmbunătățește gândirea sistematică, susține explorarea creativă și contribuie la dezvoltarea unor modele textile mai originale și coerente. Studiul propune un cadru metodologic pentru integrarea modelelor sistematice de creativitate în practica și educația designului textil, contribuind astfel la procesele de design orientate spre inovare în domeniul textil.

CUVINTE CHEIE: digitalizare; design textil; inovație; proces creativ; model

UNE APPROCHE SYSTÉMATIQUE DU DESIGN TEXTILE : ÉTUDE EXPÉRIMENTAL

RÉSUMÉ. Les modèles systématiques de créativité offrent des cadres structurés pour définir les problèmes de conception, générer des idées et évaluer des solutions. Parmi ces modèles, la théorie en sept étapes d'Osborn propose un processus structuré qui soutient la pensée créative et la résolution de problèmes. Cette étude vise à examiner l'applicabilité du modèle d'Osborn dans la conception de motifs textiles à travers une approche expérimentale. La recherche a été menée auprès d'étudiants de deuxième année du département de design textile de l'université Ankara Hacı Bayram Veli. Dans le cadre de l'étude, sept étudiants ont développé des motifs textiles en appliquant systématiquement les étapes du modèle d'Osborn. Les créations et les processus ont été analysés en termes d'originalité, de cohérence conceptuelle et de diversité créative. Les résultats indiquent que la mise en œuvre structurée du modèle renforce la pensée systématique, favorise l'exploration créative et contribue au développement de motifs textiles plus originaux et cohérents. L'étude propose un cadre méthodologique pour l'intégration des modèles systématiques de créativité dans la pratique et l'enseignement du design textile, contribuant ainsi aux processus de conception orientés vers l'innovation dans le domaine textile.

MOTS CLÉS : numérisation ; design textile ; innovation ; processus créatif ; motif

* *Correspondence to: Pinar ARSLAN, Ankara Hacı Bayram Veli University, Faculty of Art and Design, Department of Textile Design, 06830, Ankara, Türkiye, pinar.arslan@hbv.edu.tr*

INTRODUCTION

Creativity and the skill of creative thinking – topics that have intrigued thinkers and philosophers since antiquity and continue to captivate modern scientists – remain among the most fundamental traits that distinguish humankind from other living beings. Initially explored within the field of philosophy, creativity has since become a subject of theoretical inquiry in various disciplines, including psychology, social sciences, fine arts, and education. A commonly agreed upon definition of creativity in interdisciplinary studies is that it involves "new ideas, different perspectives, or original products," and creativity is assessed based on the design or output that results from this process [1, 2]. Since the Renaissance, Western civilization has focused heavily on the technical structures and mechanisms associated with creativity [3]. As a result, from that period to the present day, both our ancestors and we ourselves have channeled creative impulses into the making of technical artifacts, thereby contributing to the application and advancement of creativity science. Creativity – expressed as the development of a solution to a problem, the invention of a new method, or the formulation of an original idea – emerges from the encounter between a highly conscious individual and their own world [4]. The term itself derives from the Latin word *creare*, meaning "to bring forth," "to create," or "to give birth" [5, 6]. According to Batı [7] creativity can emerge by developing our minds in the right environment using the right methods at the right time. Craft [8], on the other hand, describes creativity as a lifelong skill, defining it as the capacity for self-expression, intelligence, and imagination. Creativity has also been considered as an invention, a scientific theory, an improved product, or a novel design idea that involves questioning the status quo, exploring alternative solutions, and generating original ideas [9-11]. Design can be defined as a thought process that responds to a desired goal, a component of an intelligible whole, and a synthesis of material and form created to serve a specific purpose [12]. According to [13] who describes design as consisting of 98% common sense and 2% of what could be called a mystical component—creativity—the textile industry is a multifaceted field that requires an understanding of design, management, and technology for success. In this context, the design creation process holds a central place in both the evaluation and formation of design. This process supports the emergence of knowledge and experience through diverse reasoning mechanisms while ensuring the integration of design with visual and aesthetic values [14, 15]. Throughout history, scholars have developed theories and methodologies aimed at explaining the concept of design, along with approaches that analyze design activity as a cognitive process [16-19]. Especially in the field of textile design (weaving, knitting, printing), a creative process exists through which designers transform abstract ideas in their minds into concrete forms, thereby facilitating the emergence of original and innovative products. This study aims to develop a creative and innovative approach in pattern design by explaining Osborn's Seven-Stage Theory and integrating it into the textile design process. In line with this goal, the research problem focuses on the applicability of Osborn's Seven-Stage Theory (Orientation, Preparation, Analysis, Hypothesis, Incubation, Synthesis, Verification) in guiding undergraduate textile design students in developing digital textile pattern design variations.

EXPERIMENTAL

Materials and Methods

In this study, the methodology involved explaining the stages of Osborn's Seven-Stage Theory based on accessible literature, and conducting an experimental study with second-year undergraduate students enrolled in the Textile Composition course offered by the Textile Design Department. Information on Osborn's Seven-Stage Theory was presented to the students, who were then instructed to develop their designs in accordance with these stages. The theory was employed to help students understand how the creative process unfolds during textile pattern design and to ensure that the process—from idea formation

to product realization—could be systematically monitored, revised, and applied. Each of the model's seven stages was implemented separately, ultimately resulting in the production of textile pattern designs.

The study population comprised second-year undergraduate students enrolled in the Textile Composition course offered by the Textile Design Department at Ankara Hacı Bayram Veli University, while the sample consisted of seven participants randomly selected from two sections of the same course. To explore how the creative process is shaped through the stages of the creative process model and to evaluate the applicability of Osborn's Seven-Stage Theory in textile pattern design, a semi-structured interview form containing 25 questions was developed. The identities of the students interviewed were kept confidential, and they were referred to as "participants" in the study. In references supporting the analysis of data tables, participant citations were coded as "participant number." The interview form regarding the design process was administered to all seven participants, and, with their consent, the interviews were audio-recorded. The collected data were analyzed, tabulated, and then interpreted and explained in the section titled Applications of Pattern Design in Textiles. According to [20] semi-structured interviews lie between structured and unstructured interview types. In this method, the researcher follows a general framework but may adapt questions according to the characteristics of the interviewees, thus exploring various dimensions of the subject matter. In other words, semi-structured interviews offer a more flexible approach compared to structured interviews. The researcher prepares a form containing planned questions in advance, but during the interview, they may pose additional or alternative questions to influence the course of the conversation and encourage participants to elaborate on their responses in greater detail [21, 22].

OSBORN MODEL

Alex Osborn's creative process model, which grants equal status to analysis and imagination, consists of seven stages [17]. Also known as the Seven-Stage Theory, the phases of this creative process model can be described as follows:

1. Orientation (Identifying the Problem): While significant ideas can sometimes emerge spontaneously and unexpectedly, this does not occur consistently without conscious effort. However, creative effort increases productivity and enables the generation of more ideas. Throughout the entire process, it is essential to maintain focus on the primary objective. Starting from the notion that "a well-defined problem is half solved," a clearly framed problem serves as a key component in approaching the solution. Therefore, identifying the research problem and the fundamental goals and objectives to be achieved is critically important in this stage.

2. Preparation (Gathering Relevant Data): In the second stage of the creative process—preparation—both existing knowledge stored in memory and newly collected data related to the creative problem are needed. When the data obtained through effort and experience are internalized, they can lead to insights into potential solutions. Even if the mind is initially overwhelmed with an abundance of ideas, a sudden spark may reveal a creative solution that is potentially the best among them.

3. Analysis (Breaking Down the Relevant Material): Analysis functions as a component throughout the orientation, preparation, synthesis, and verification stages. It particularly helps in better defining objectives during the orientation phase and supports more effective guidance during preparation. This stage entails evaluating a problem from multiple perspectives using critical thinking and fostering creative thinking. By distinguishing between judgment-oriented elements and idea-generating elements, it enables a clearer assessment of the issue, thus allowing potential creative ideas to emerge.

4. Hypothesis (Accumulating Alternatives Through Ideas): Following the identification of objectives and the collection of data, the solution to a creative problem becomes closely linked to the diversity of hypotheses generated. Tentative development of alternative hypotheses can trigger new perspectives, increasing the likelihood of uncovering ideas related to problem-solving. Each new hypothesis can guide deeper

investigations and play a key role in reaching a solution. Creative thinking enhances this stage by enabling the connection between ideas, even those initially deemed impractical, to form new and innovative solutions. This holistic approach evaluates problem-solving not only through logic but also through creative, innovative, and open-minded thinking.

5. Incubation (Relaxing to Invite Illumination): The incubation stage, often referred to as the "surprise phase" of the creative process, denotes a period of spontaneous insight that arises without deliberate effort. This is the stage where brilliant ideas often surface unexpectedly. During this phase, the researcher does not actively focus on the problem; instead, the subconscious mind continues working in the background, often while engaging in routine activities or unrelated tasks. It marks the beginning of the emergence of solution ideas, although these are not yet fully formed or concrete.

6. Synthesis (Bringing the Parts Together): Most ideas result from combinations or refinements of other ideas. The synthesis stage, the most productive phase of the creative process, functions in contrast to the analysis stage. The more thoroughly a problem is analyzed from the beginning, the higher the likelihood of identifying and integrating the solution components. Synthesis relies on an inductive approach, combining several ideas within a logical framework under a general conceptual umbrella.

7. Verification (Judging the Emerging Ideas): The final stage is critical for any creative project. The verification process involves evaluating the outcomes, not only through personal judgment but also by seeking the opinions of others. This phase ensures the validation of not just the final results but also a review of previous stages, including goal alignment and hypothesis examination. Ultimately, testing the project outcomes represents the most definitive form of verification.

FINDINGS

Textile Pattern Design Applications

Among the participants, three (P1–P2–P3) developed pattern designs using the mind mapping method based on the theme "The Language of Sculpture/Modern Typography," while four participants (P4–P5–P6–P7) followed the theme "Met Gala," all applying the stages of Osborn's Seven-Stage Theory. The participants' pattern design processes were examined through a 25-question semi-structured interview form. The responses given by the participants were analyzed, presented in separate tables for each stage, and interpreted accordingly. Furthermore, these tables were supported with participant statements and explanations.

Orientation: Identifying the Problem

In the orientation stage, students were required to focus on a specific problem. As the design process evolves around the design problem, the problem must be defined clearly and explicitly at this stage. Through collaborative idea and suggestion sharing, the students identified a common design problem as follows: "To adopt a creative and innovative approach in textile pattern design, creating original printed fabric patterns based on a theme that are visually, aesthetically, and functionally meaningful, and transforming these patterns into a final product." The general and specific objectives related to this identified problem are outlined below.

General Objective: The general objective of the study is to integrate the stages of Osborn's Seven-Stage Theory into the creative process of textile pattern design and to prepare the pattern designs in line with these stages.

Specific Objectives:

1. How is a theme determined in textile pattern design?

2. How is the mind mapping method applied in theme-based printed textile fabric design?

3. How are visual, motif, color, material, and technique researches conducted to contribute to the pattern design process in line with the chosen theme?

4. How is the digital printing pattern design process carried out based on the theme?

5. How should the prepared pattern designs be evaluated in terms of aesthetics, functionality, and manufacturability, and how is the final design formed?

Table 1: Orientation phase

Question	K1, K2, K3 (Group 1)	K4, K5, K6, K7 (Group 2)
Sources used in theme research	Inspired by visuals from the documentary *Abstract: The Art of Design*, specifically the episode on *Paula Scher: Graphic Design*, detailed photographs, drawings, and graphic materials of Ancient Greek and Roman sculptures and columns were used. Additional resources included graphic books, studies on Greek and Phrygian alphabets, and artificial intelligence tools.	Visuals of Met Gala outfits from 2024 and earlier were examined via websites, social media, and online magazines. The visuals related to annually selected Met Gala themes were utilized for analysis.
Factors considered in theme selection and the importance of the theme	In textile pattern design, the aesthetic and structural features of Ancient Greek and Roman sculptures – such as depth, form effect, and the applicability of typography – were considered. Within the theme, the influence of sculpture on aesthetic perception, architectural inspirations, and the use of typography were emphasized, resulting in a design that reflected a modern-retro balance.	As a prestigious event where fashion and art merge under a unique concept each year, the Met Gala inspired designs based on iconic and striking styles worn by celebrities. The application of selected themes in outfits and patterns led to expressions that incorporated symbolic motifs reflecting the theme's essence.
Identified sub-themes and their rationale	In order to design subjective, detailed, and field-oriented patterns, typography was divided into sub-themes.	The main theme was not divided into sub-themes.

When examining the sources used in theme research during the orientation stage as presented in Table 1, it was found that participants in Group 1 (P1–P2–P3) were inspired by an art documentary focused on graphic design. They utilized artistic and historical resources such as Ancient Greek and Roman sculptures, drawings, graphic books, and artificial intelligence tools. In contrast, participants in Group 2 (P4–P5–P6–P7) drew inspiration from fashion influences—particularly the contemporary Met Gala event—and made use of digital platforms such as social media and online magazines to access event visuals. Accordingly, it can be stated that the participants in Group 1 adopted a more artistic and academic approach from a historical and traditional perspective, while those in Group 2 were more influenced by contemporary and popular culture, drawing inspiration from modern fashion trends.

Participant P1 stated, "We started out from a graphic design documentary. Since we felt a connection, we chose typography." Similarly, P2 commented, "After watching the documentary, some concepts became clearer in our minds. But that was a graphic designer, and we are textile designers. So we couldn't reflect it the same way. We focused more on the textile surface and used AI to preview such content." On the other hand, P4 remarked, "At that time (2024), the Met Gala visuals shared on social media caught our attention, and we were curious to see how the extravagant garments from the Met Gala would look as textile fabric patterns." When examining the factors considered during the theme selection process and the significance of the chosen themes, it was observed that participants from both groups first assessed the applicability of their selected themes to textile pattern design. In this context, Group 1 developed a theme that synthesized aesthetic and structural qualities by combining sculptural forms with typography, resulting in a blend of modern and retro influences. Group 2, on the other hand, created a theme based on the fusion of fashion and art, focusing on iconic red carpet looks of celebrities. Thus, it can be concluded that each group's theme selection was shaped by their own creative thinking and sources of inspiration. Participant P2 remarked, "We were fascinated by the idea of reflecting the spirit of female goddesses through sculptures and combining that with typography in an architectural context. Typography allowed us to reflect the modern aspect, while the sculptural elements brought in a retro feel that we didn't want to lose." Participant P4 stated, "The Met Gala is typically regarded as significant by fashion designers. While designers focus on the garment itself, as textile designers, we wanted to transfer the forms of Met Gala outfits and

elements like plants and flowers into our pattern designs."

When the identified sub-themes and their rationales were reviewed, it was found that Group 1 divided their main theme into sub-themes, whereas Group 2 developed their pattern designs based solely on the main theme, without further subdivision. The participants from Group 1 explained their reasons for subdividing the theme as follows:

P1 stated, "Since typography can be used in many fields, we needed to define which area of textile design we would focus on." P2 added, "We wanted to draw conclusions from our main headings to guide our design process." P3 noted, "We aimed to create more detailed and varied designs by structuring our work through sub-themes." In contrast, the Group 2 participants shared a common view that, since they explored Met Gala through different time periods, there was no need to develop detailed sub-themes.

Preparation: Gathering Relevant Data

Preparation is the stage where data related to the design problem is systematically collected. At this stage, students conduct comprehensive research using written and visual sources aimed at generating innovative, original, and creative printed fabric pattern design ideas. Deciding on a specific design theme to guide the formation of a creative and original design idea is a priority in this phase. Based on written and visual source reviews, Group 1 selected "The Language of Sculpture/Modern Typography" as their theme, while Group 2 developed their theme based on the idea of the "Met Gala".

Table 2: Preparation phase

Question	K1, K2, K3 (Group 1)	K4, K5, K6, K7 (Group 2)
Factors considered in motif, color, and color palette research	Within the theme, brown, cream, and their tones were chosen to emphasize sculpture, and warm colors were selected to create unity in typography.	In order to reflect the glamorous aspect of the Met Gala, colors used in costumes from past eras were combined with contemporary trend colors.
Contribution of the color palette to the theme	The use of brown, cream, and their tones to highlight sculpture added a nostalgic and mystical feeling, while the inclusion of warm colors reflected a modern spirit.	The selected patterns and colors provided iconic forms and integrity in the designs.
Order of visual-motif-color palette selections	Color Palette – Visual – Motif	Motif – Visual – Color Palette Visual – Color Palette – Motif

In the preparation stage, as seen in Table 2, when analyzing the factors considered in motif, color, and color palette research and the contributions of the selected colors to the theme, it was observed that Group 1 (P1–P2–P3) chose brown, cream, and their tones to emphasize the sculptural form and used warm tones to ensure visual unity with typography. Group 2 (P4–P5–P6–P7), on the other hand, selected colors that reflect the historical aspect of the Met Gala, combining past-era colors with current trend colors to achieve integrity; this color choice in Group 1's designs created a mystical and nostalgic atmosphere, while in Group 2's designs it contributed to visual coherence and striking impact. Accordingly, Group 1 favored a more traditional approach by selecting classic and natural tones, aiming to reinforce their theme through nostalgic color choices. Group 2, in contrast, aimed for a more vibrant and expressive aesthetic by incorporating modern color trends and emphasizing eye-catching and contemporary elements.

P1: "We used sculptural tone colors. I agree with P3." P3: "We mostly used brown and cream tones. I believe these colors, being associated with sculptures, gave that old mystical atmosphere." P2: "At first, we tried to integrate the colors individually in our designs. We focused on warm tones and added blue and its undertones. To maintain coherence in the theme, we determined a common color palette that would not disrupt the sculptural effect. The colors reflected both a nostalgic calmness and a modern spirit." P4–

P5–P6–P7: “We blended the patterns and colors on the garments, achieving striking forms and coherence in the designs,” they stated as a shared opinion.

When the order of Visual–Motif–Color Palette selections was examined, Group 1 participants listed them as “Color Palette–Visual–Motif,” while Group 2 participants listed them as “Motif–Visual–Color Palette” and “Visual–Color Palette–Motif.” Accordingly, it can be said that Group 1 first determined the color palette to establish a theme-appropriate framework and then drew inspiration from visuals and motifs; whereas Group 2 determined the colors starting from either the motif or the visual.

The participants expressed their sequences as follows: P1–P2–P3: “Color Palette–Visual–Motif”; P4 and P5: “Motif–Visual–Color Palette”; P6 and P7: “Visual–Color Palette–Motif.”

Analysis: Breaking Down the Relevant Material

Mind Mapping is a powerful graphical technique associated with imagination, consensus, flexibility, and other cognitive skills that encourages creative thinking, explores all creative possibilities related to a specific theme/topic, and helps generate ideas that unlock the brain’s potential. The main topic is gathered in a central image. Main themes related to the topic radiate outward from the central image in branches and are interconnected. These branches consist of keywords or key visuals, graphics, or drawings appropriate to the main and sub-themes. The structure of the branches is characterized as an interconnected node system [23].

In the formation and development of the design idea, the mind mapping method was used in this research as a supportive tool for:

a) Analyzing the main design idea in more detail by dividing it into sub-themes,

b) Associating the main theme/topic with its related sub-theme branches,

c) Evaluating the main theme/topic from a broader perspective.

In the mind map created by Group 1, the main theme “The Language of Sculpture/Modern Typography” is divided into various sub-themes including pattern, sculpture, graffiti, pop art, typefaces, and color palettes. The sub-themes are supported by keywords and key visuals (see Figure 1).

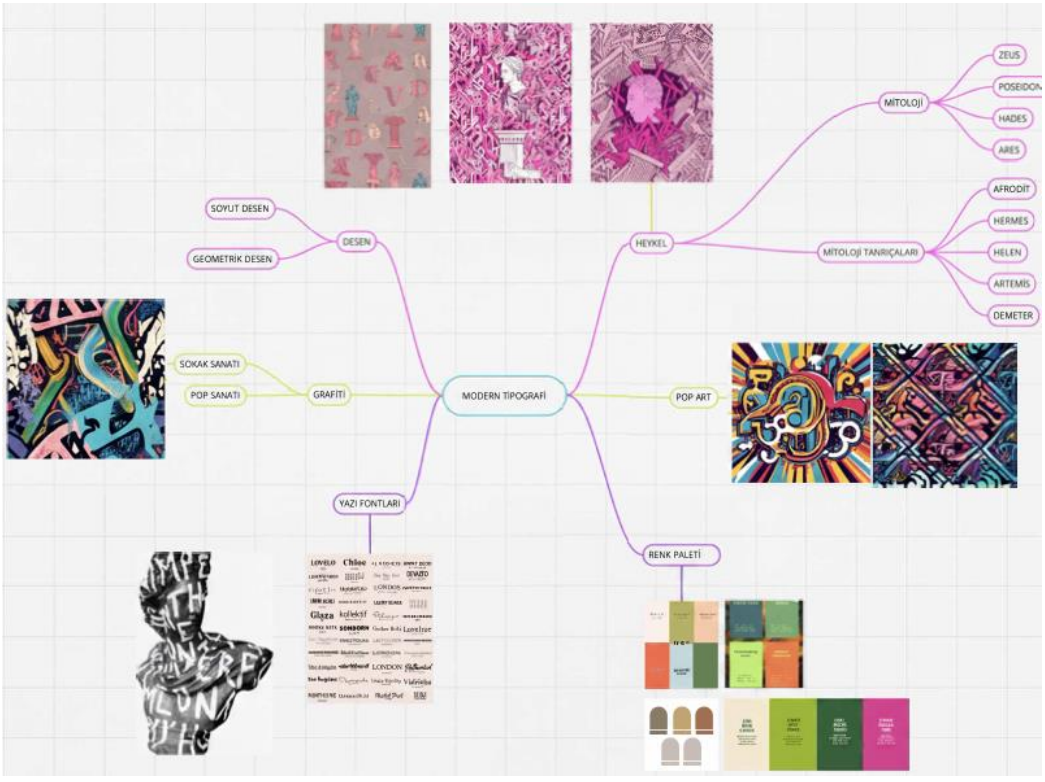


Figure 1. The language of sculpture/modern typography mind map

In the Group 2 mind map, after determining the main theme "Met Gala," [24] key visuals and color palettes related to appropriate sub-themes were included (see Figure 2).

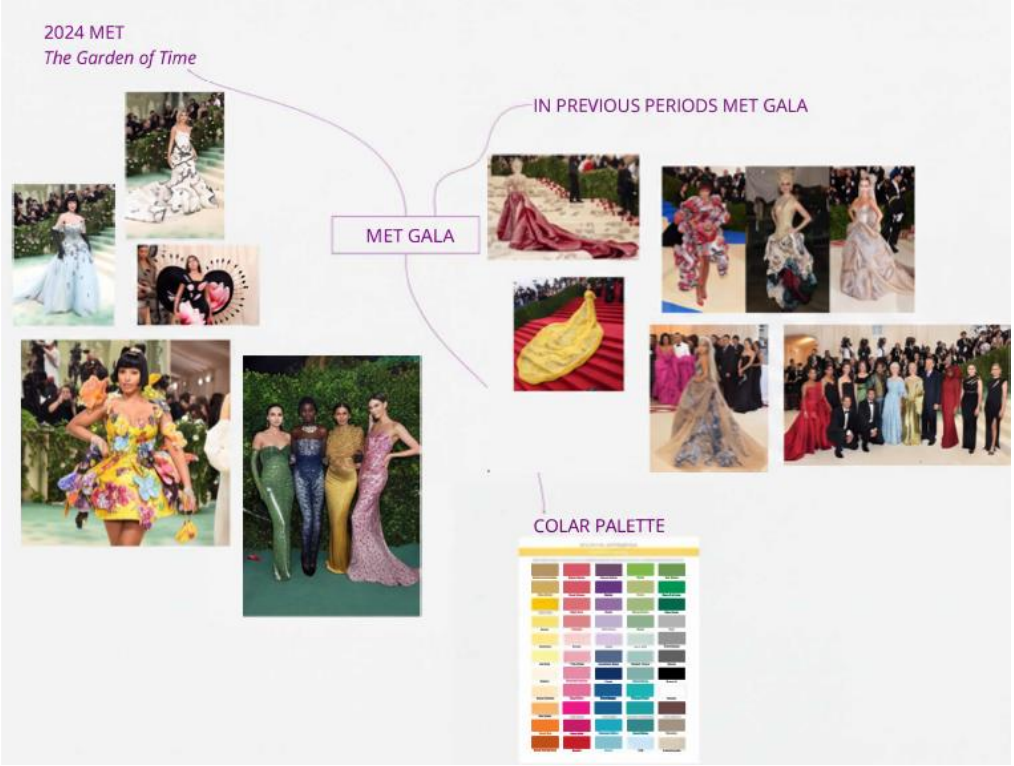


Figure 2. The Met Gala mind map

When examining the mind map created with main and sub-theme topics in Table 3 related to the analysis stage, it was observed that Group 1 (P1–P2–P3) shaped their main themes around the titles of modern typography, mythology, and goddesses, and in order to express the applications of these themes in textile pattern design, they divided them into sub-theme components such as sculpture, typefaces, color palette, and pop-art. Group 2 (P4–P5–P6–P7), on the other hand, did not divide their main theme Met Gala into sub-themes but drew inspiration from visual references of garments spanning the years 2016–2024. Regarding this topic, participants stated the following during the interviews:

Table 3: Analysis phase

Question	K1, K2, K3 (Group 1)	K4, K5, K6, K7 (Group 2)
Mind map created with main theme and sub-theme topics	The subheadings Modern Typography – Sculpture – Mythology / Mythological Goddesses were identified. In order to determine the areas of use of modern typography in textile pattern design, the main theme and sub-themes were defined as pattern, sculpture, typefaces, color palette, graffiti, and pop art. The defined sub-themes were categorized internally (See Figure 1).	Met Gala and time periods were determined. In order to identify the areas of use for textile pattern design, Met Gala outfits from 2016 to 2024 were examined [24] (See Figure 2).
Relationship between themes and pattern designs	Typography was generally used as the background, while sculpture was used in motifs. To preserve historical coherence, the alphabet of the period when the sculpture was created was preferred, ensuring integrity between typography and sculpture.	Based on the 2024 Met Gala theme, coherence was ensured by selecting suitable time periods and iconic styles from previous Met Gala designs.

Question	K1, K2, K3 (Group 1)	K4, K5, K6, K7 (Group 2)
Determining the type of repeat (rapport)	A repeat style was chosen that matched the pattern and ensured visual unity without losing rhythm or flow.	A unit repeat was used to achieve visual unity according to rapport rules, with particular attention paid to the harmony between the design and the surface shape of the fabric.

P1: "We identified modern typography as our main theme. Then we thought about what we could do with typography and in which fields. To reflect our theme more effectively in textile pattern design, we divided it into six subheadings: pattern (abstract and geometric), sculpture (mythology and mythological goddesses), color palette, and typefaces" (see Figure 3).



Figure 3. The language of sculpture / modern typography theme (P1)

P2: "To reflect modern influences in our designs, we wanted to use the colors of the pop-art movement adopted by a graphic artist and researched how we could apply these colors in our textile pattern designs." P4: "Our main theme was the theme defined for the 2024 Met Gala. As a sub-theme, we considered the earlier periods of Met Gala. For example, in some of my designs, I combined the 2024 theme with elements from the 2016–2020 period." P5: "At the end of creating our mind map, we were able to progress from parts to whole." P7: "We divided our main theme into time periods and then continued our work."

When the relationship between themes and pattern designs was analyzed, it was found that Group 1 (P1–P2–P3) created visual integrity between typography and sculpture by using the alphabet and writing styles of the historical period to which the sculpture belonged. Group 2 (P4–P5–P6–P7), meanwhile, ensured visual coherence by incorporating garment visuals, colors, and motifs from the 2024 Met Gala and earlier periods. Accordingly, it can be said that Group 1 achieved thematic and design coherence through typography and artistic elements, while Group 2 achieved this coherence by comparing past and contemporary understandings of fashion.

Participants' views in the interview form on this topic were as follows:

P1: “I used the contours and hair of the sculptural forms in my designs to create typographic elements. This way, I combined sculpture and typography.” P2: “The backgrounds prepared with typography were merged with sculpture motifs to create connections. For example, when using a Greek sculpture, we used the Greek alphabet.” P3: “On the lines of the sculpture columns, I wrote the materials used in textiles with different alphabets to create background cohesion. For instance, when highlighting the Aphrodite sculpture, I narrated her story in the background using typography.” P4–P5–P6–P7: “Since our main and sub-themes were all related to Met Gala, we did not combine independent topics. We incorporated forms from past outfits suitable for 2024 and ensured coherence in our pattern designs,” they stated as a shared opinion.

When analyzing the determination of the repeat type, it was found that Group 1 (P1–P2–P3) applied a structured and visually attentive approach that followed repeat rules and paid attention to the rhythm of the pattern. Group 2 (P4–P5–P6–P7) also followed repeat rules and paid attention to visual coherence. Accordingly, it can be said that both groups selected their repeat types in alignment with the fabric appearance appropriate to their theme-based designs.

On this topic, the participants stated: P1: “We determined it based on achieving a fabric-like appearance in our pattern designs.” P3: “We paid attention to ensuring pattern integrity, rhythm continuity, and avoiding loss of design elements.” P5: “We considered the unit size to be used in the pattern and how it would look on fabric.” P4–P6–P7: “First, we created a unit repeat and then analyzed which repeat type would yield better results before making our decision.”

Hypothesis: Accumulating Alternatives Through Ideas

According to the mind mapping method, Group 1 divided their main theme, “The Language of Sculpture – Modern Typography,” into five distinct sub-themes: Pattern – Sculpture – Graffiti – Pop Art – Typefaces, and linked these sub-themes to each other through branches using key visuals and keywords. Group 2, on the other hand, created their mind map in line with the main theme “Met Gala” by using key visuals (outfit visuals from various years of the Gala). However, it should be noted that this group did not elaborate on their main theme through sub-themes and relied solely on visual materials.

Within the scope of the design problem – to create original printed fabric designs based on the theme with a creative and innovative approach in textile pattern design and to transform these designs into final products in terms of visual, aesthetic, and functional aspects – the following alternative hypotheses have been formulated:

1. The student will be able to design more diverse and creative pattern variations (color, texture, motif, composition, etc.) by determining the main and sub-themes through the mind mapping method.

2. Through the process of identifying main and sub-themes, the student will be able to enhance their creative thinking skills by being inspired by keywords and visuals or by abstracting them, and will be able to generate more innovative and original ideas in the digital textile pattern design process.

3. The student will be able to produce a greater number and variety of patterns (color, motif, composition) based on the target pattern determined through the mind mapping method.

4. The student will be able to design original and innovative textile patterns through a design process that includes main and sub-themes evaluated by expert assessment.

5. The student will be able to transfer creative pattern design ideas in accordance with the elements of textile pattern design, composition rules, and digital design principles.

Based on the alternative hypotheses above, the study’s general hypothesis is formulated as follows: “The student will be able to enhance their creative thinking skills by identifying main and sub-themes through the mind mapping method and will be able to design original and innovative patterns based on expert evaluation and analysis.”

Table 4: Thought formation phase

Question	K1, K2, K3 (Group 1)	K4, K5, K6, K7 (Group 2)
Pattern proposal development	Pattern units for each repeat type were drawn and evaluated at the sketch stage using the Illustrator program.	Clothing visuals from the years 2016–2024 were examined, and pattern units for each repeat type were drawn and evaluated at the sketch stage using the Illustrator program.
Elements considered in pattern proposals	Among design principles, particular attention was given to balance, unity, contrast, and proportion, as well as balanced use of background and motif colors.	Among design principles, attention was paid especially to balance and unity; harmony between design elements; color selection; and contrast between light and dark tones, as well as appropriate use of the same colors and tones.

In Table 4, which pertains to the idea generation stage, the development of pattern proposals was examined. It was found that participants from both groups drew their patterns in the Illustrator program and evaluated them at the sketch stage for each type of repeat (rapport). Accordingly, it can be stated that the participants created units from the motifs/visuals they intended to use in their pattern designs in accordance with their theme, drew them in Illustrator, and tested these drawings across various repeat types within the program.

From the interview form, participants from Group 1 (P1–P2–P3) stated a shared opinion: “We drew our units in Illustrator and placed them for each type of rapport and then decided accordingly. For example, if we needed to use a sculpture silhouette unit, we tested it in diagonal and repeated rapport types. Afterwards, we chose to use the unit in diagonal and repeated rapports because we couldn’t use it in block rapport. For block rapport, we mostly referred to architectural patterns.”

Participants from Group 2 (P4–P5–P6–P7) also expressed a shared opinion: “We analyzed different gala periods to identify usable units, then drew the units in Illustrator and placed them in each type of rapport and decided accordingly.”

When examining the elements considered in the pattern proposals, it was observed that participants from both groups focused on design principles such as balance, unity, and contrast. While Group 1 paid particular attention to the balance between background, motif, and color, Group 2 focused on the contrast between light and dark tones. Accordingly, it can be said that Group 1 (P1–P2–P3) approached the process from a broader perspective, concentrating on design principles and the integration of motifs with the background, whereas Group 2 (P4–P5–P6–P7) adopted a more specific method, focusing particularly on color contrast and tonal transitions. The designs created by the students on this topic are included in the synthesis stage.

During the interviews P2 stated: “We paid attention to rhythm, emphasis, and balance principles from the design rules. We wanted to reflect the sculptures without distorting their overall structure, and for that, we used their original colors. In typography, we used slightly more vivid colors in order to preserve the typeface and complement the sculptures.” P4 stated: “We focused on rules such as proportion and balance from the design principles, as well as on color usage. For example, we prepared some of our pattern designs in tone-on-tone and with contrasting colors. This gave the patterns more dimension and made them visually striking.” P5 stated: “We particularly paid attention to maintaining unity in our pattern designs.”

Incubation: Relaxing to Invite Illumination

This stage can be described as the moment when no new ideas can be produced and designers begin to engage with different topics – essentially, distancing themselves from the problem. It is a phase where designers may feel the need to withdraw or take a break from the process.

Table 5: Incubation phase

Question	K1, K2, K3 (Group 1)	K4, K5, K6, K7 (Group 2)
Approach followed when ideas could not be generated	The participants distanced themselves from the pattern production process, engaged with different topics, and re-analyzed the documentary previously watched during the theme research.	The participants distanced themselves from the pattern production process and engaged with different topics.

When examining the approach followed when ideas could not be generated in Table 5 – Incubation Stage, it was found that Group 1 (P1–P2–P3) distanced themselves from the pattern creation process, engaged with different topics, and re-analyzed the documentary they had watched during the theme research. Group 2 (P4–P5–P6–P7) participants, on the other hand, were observed to have also engaged with different topics. Accordingly, it can be stated that within the context of creativity in the pattern development process, the incubation stage varies among participants and is a subjective experience. Regarding the approaches followed when ideas could not be generated, the participants stated:

P1: "I engaged with different topics." P2 and P3: "I rewatched and analyzed the documentary." P4: "I examined different time periods to generate ideas." P5: "I engaged with different topics and continued after taking a break." P6: "I agree with P7. I also engaged with other things." P7: "I designed patterns while listening to music."

Synthesis: Bringing the Pieces Together

At this stage, in line with the main and sub-themes specified in the mind mapping method, elements such as motif, color, and composition were combined to complete the pattern designs. The participants explained their designs accordingly. The explained pattern designs are presented in the following tables.

Table 6: Synthesis phase

Question	K1, K2, K3 (Group 1)	K4, K5, K6, K7 (Group 2)
Changes made in the patterns and their effects	Changes such as color palette adjustments and the use of typography on the outer contours of the sculpture were made to ensure unity and balance within the patterns.	Changes such as alterations in the color palette, background, and dimensional differences in motifs were made, and the resulting patterns were completed aesthetically with an added sense of depth.
Strengths and weaknesses of the designs in terms of aesthetics	As a weakness, some designs did not adequately reflect design principles; as a strength, the unity achieved between patterns and their complementary relationships were emphasized.	As a weakness, visual complexity and confusion caused by background effects and varying motif dimensions were noted; as a strength, successful use of different color combinations was highlighted.
Potential applications of the patterns in terms of functionality (e.g., home textiles, scarves, fabrics)	The patterns were mostly prepared for scarves, shawls, and home textiles, with intended use areas clearly defined.	The designs were mostly prepared for scarf and home textile use. Additionally, some patterns were evaluated as suitable for apparel design due to their aesthetic appeal.

When examining the changes made in the patterns and their effects in Table 6 – Synthesis Stage, it was observed that Group 1 (P1–P2–P3) generally made changes to the color palette, outer contours of sculptural forms, and typography usage in an effort to ensure unity and balance in their designs; whereas Group 2 (P4–P5–P6–P7) attempted to add depth to their designs through the effect of dimension, by making changes to the color palette, background, and motif sizes. Accordingly, while both groups made adjustments in their color palettes, it can be said that Group 1 focused on changes in typography and sculptural contours to achieve design unity, and Group 2 made changes to backgrounds and motif sizes. Participants expressed these changes as follows:

P2: “I was inspired by the color palette and sculptures and wrote the letters like columns. I ensured design unity by paying attention to the balance between filled and empty spaces” (see Figure 4).



Figure 4. The language of sculpture / modern typography theme (P2)

P3: “I separated the upper part of the sculpture from the color palette and created unity by connecting it with typography and the background” (see Figure 5).

P4: “I made changes to the colors. In some patterns, I added texture effects to the background to establish the background-motif interaction. This way, I ensured unity” (see Figure 6).



Figure 5. The language of sculpture / modern typography theme (P3)



Figure 6. The language of sculpture / modern typography theme (P4)

P5: “I made changes in the colors. The changes we made completed our designs aesthetically” (see Figure 7).

P6: “I changed the sizes. With color changes, I created a sense of dimension and depth in the motifs. The changes I made to the background color altered the appearance of the motifs” (see Figure 8).



Figure 7. The language of sculpture / modern typography theme (P5)

P7: “I made changes in the colors to adapt to the present day, stay true to the theme, and reflect my originality. I ensured unity through background effects” (see Figure 9).



Figure 8. The language of sculpture / modern typography theme (P6)



Figure 9. The language of sculpture / modern typography theme (P7)

When examining the strengths and weaknesses of the pattern designs in terms of aesthetics, it was found that the common weakness among participants in both groups was a lack of adherence to design principles in some of their patterns. As for the strengths, Group 1 (P1–P2–P3) designed their patterns in a way that complemented one another, while Group 2 (P4–P5–P6–P7) achieved visual depth in their patterns through effective use of color. Accordingly, while both groups shared a common weakness in terms of design principle implementation, the strength of Group 1 was the internal coherence among their patterns, whereas Group 2 demonstrated strength in combining different colors harmoniously to create visually cohesive designs. Participants expressed the strengths and weaknesses of their patterns as follows: P1: "As a weakness, I had a pattern that felt monotonous. As a strength, my patterns created unity with one another." P2: "As a weakness, I had a pattern where I couldn't establish a proper balance between filled and empty space. As a strength, I would say my patterns complemented each other." P3: "As a weakness, the use of letters created very fine lines. As a strength, my designs achieved overall unity." P4: "As a weakness, the patterns I selected were more suited for block rapport. As a strength, I used botanical units and different colors together." P5: "As a weakness, I couldn't maintain scale consistency in some of my patterns. As a strength, I can highlight the color harmony I achieved." P6: "As a weakness, some of the colors I used were not in harmony. As a strength, I would say I used different dimensions and harmonious color combinations across my designs." P7: "As a weakness, my intention to create background effects caused some patterns to appear visually complex. As a strength, I would say that I managed to establish harmony despite the complexity through the color combinations I used." When examining the potential applications of the pattern designs in terms of functionality, it was observed that participants from both groups generally designed their patterns for scarves, shawls, and home textiles; as an alternative, some participants from Group 2 (P4–P5–P6–P7) also designed certain patterns to be used as wallpapers. Accordingly, it can be stated that both groups generally identified common areas of functionality for their pattern designs. P1 and P2: "I designed my patterns to be suitable for use in scarves and shawls." P3: "I designed my patterns to be suitable for scarves, shawls, and home textiles (e.g., cushion covers)." P4 and P5: "I designed my patterns to be suitable for scarves and home textiles (e.g., cushions, bedspreads)." P6: "I designed my patterns to be suitable for scarves and home textiles. I believe some of my patterns could also be used as wallpaper." P7: "I designed my patterns to be suitable for scarves and home textiles. Some of my patterns could also be used as fabric."

Verification: Judging the Ideas that Emerged

At this stage, initial feedback on the patterns was provided by the course instructor. Final adjustments were made prior to the committee evaluation. Subsequently, a committee composed of faculty members from the Textile Design Department was formed, and the ideas emerging from the students' pattern designs were evaluated by the committee.

Table 7: Verification phase

Question	K1, K2, K3 (Group 1)	K4, K5, K6, K7 (Group 2)
Production technique and related adjustments	The motifs planned for use in the patterns were evaluated in terms of which printing technique would yield better results, and the appropriate technique was selected. The color mode was adjusted to suit the chosen printing technique.	The motifs planned for use in the patterns were evaluated in terms of which printing technique would yield better results, and the appropriate technique was selected. The color mode was adjusted to suit the chosen printing technique.
Key points in the design process	Choosing a color palette appropriate to the theme and blending nostalgic elements with modernity.	Using historical references from various periods in fashion and incorporating them into textile design.

Question	K1, K2, K3 (Group 1)	K4, K5, K6, K7 (Group 2)
Evaluation of the pattern designs	Throughout the pattern design process, revisions were made under the supervision of the design advisor; fabric type was selected, and the final pattern designs were evaluated by printing samples.	Throughout the pattern design process, revisions were made under the supervision of the design advisor; fabric type was selected, and the final pattern designs were evaluated by printing samples.

In Table 7, which pertains to the verification stage, an examination of the production technique and the corresponding changes revealed that both groups worked in accordance with the digital printing technique and made color mode adjustments to ensure better visual outcomes after printing. Accordingly, it can be said that the pattern designs of both groups were printed using the digital printing technique, following appropriate color mode modifications.

Participants from Group 1 (P1–P2–P3) and Group 2 (P4–P5–P6–P7) expressed the production technique and the related changes as follows: “We prepared our designs according to the digital printing technique and made color mode adjustments in the patterns to be produced.”

When examining the key points of the design process, it was observed that for Group 1, the focus was on combining nostalgic elements with modernity through a color palette compatible with the theme; while Group 2 emphasized the use of forms from various fields in pattern design. Accordingly, it can be said that Group 1 focused on the balance of color and nostalgia-modernity, whereas Group 2 concentrated on incorporating forms from different application areas. P2 stated: “We focused on combining nostalgic elements with modernity through the color palette.” P7 stated: “We focused on adapting motifs and forms used in past clothing designs to today's context by using them in different areas such as scarves and home textiles.” Regarding the evaluation of pattern designs, it was determined that both groups revised their patterns under the supervision of their course advisors and finalized their pattern designs accordingly. Therefore, it can be concluded that both groups followed a similar path during the evaluation process. Participants from Group 1 (P1–P2–P3) and Group 2 (P4–P5–P6–P7) stated: “When creating our patterns in accordance with our theme, we exchanged ideas with our advisor and received approval at each stage. We made revisions by paying attention to the appropriateness and rules of rapport types.” In addition, the final pattern designs printed on fabric using the selected printing technique by Group 1 (P1–P2–P3) and Group 2 (P4–P5–P6–P7) were presented and evaluated during the committee exam by the faculty members of the Department of Textile Design at the Faculty of Art and Design, Ankara Hacı Bayram Veli University. The final pattern designs were evaluated according to a specified assessment scale in the committee exam (see Table 8).

Table 8: Evaluation scale

		5 DIAGONAL (STYLE) REPEAT PATTERN DESIGNS (25 POINTS)			5 BLOCK REPEAT PATTERN DESIGNS (25 POINTS)		
GROUP INFORMATION		Relevance to Theme (5 pts)	Compliance with Composition Principles (10 pts)	Originality, Innovation, and Compliance with Design Principles (10 pts)	Relevance to Theme (5 pts)	Compliance with Composition Principles (10 pts)	Originality, Innovation, and Compliance with Design Principles (10 pts)
1 GROUP 1	P1	5	5	10	5	10	10
		5	10	10	5	10	10
		5	8	8	5	8	8
		Avg. 5	8	9	5	9	9

GROUP INFORMATION		5 DIAGONAL (STYLE) REPEAT PATTERN DESIGNS (25 POINTS)			5 BLOCK REPEAT PATTERN DESIGNS (25 POINTS)		
		Relevance to Theme (5 pts)	Compliance with Composition Principles (10 pts)	Originality, Innovation, and Compliance with Design Principles (10 pts)	Relevance to Theme (5 pts)	Compliance with Composition Principles (10 pts)	Originality, Innovation, and Compliance with Design Principles (10 pts)
GROUP 2	P2	5	10	10	5	10	10
		5	10	10	5	10	10
		5	7	7	5	6	5
		Avg. 5	9	9	5	9	8
	P3	5	5	8	5	5	8
		5	10	9	5	10	8
		5	8	8	5	7	7
		Avg. 5	8	8	5	7	8
	P4	5	10	10	5	10	10
		5	10	10	5	10	10
		5	8	8	5	8	8
		Avg. 5	9	9	5	9	9
	P5	5	8	10	5	6	10
		5	10	10	5	10	10
		5	7	10	5	6	10
		Avg. 5	8	10	5	7	10
	P6	5	10	10	5	6	10
		5	10	10	5	10	10
		5	9	10	5	9	10
		Avg. 5	10	10	5	8	10
	P7	5	8	10	5	8	10
		5	10	10	5	10	10
		5	10	10	5	10	10
		Avg. 5	9	10	5	9	10

Upon examining the evaluation scale table prepared in accordance with the five alternative hypotheses determined during the fourth stage (Hypothesis – Generating Alternatives Through Ideas) of Osborn's 7-Stage Model (see Table 8), the following conclusions can be drawn:

For the hypothesis "The student will be able to design more diverse and creative pattern variations by determining the main and sub-themes through the mind mapping method", it was observed that the students were able to produce various designs using different colors, motifs, and compositions, For the hypothesis "The student will be able to develop creative thinking skills and generate more innovative and original ideas in the digital textile pattern design process by being influenced by keywords and visuals or through abstraction in the process of determining the main and sub-themes", the originality and innovativeness of the students' designs indicated that their creative thinking and original design skills had improved accordingly. For the hypothesis "The student will be able to create a greater number and variety (in terms of color, motif, composition) of designs based on the pattern goal determined through the mind mapping method", it was found that each participant increased diversity by designing five diagonal and five block repeat pattern designs. For the hypothesis "The student will be able to design original and innovative textile patterns based

on a design process involving main and sub-themes evaluated by experts", expert evaluations confirmed that this hypothesis was realized. For the hypothesis "The student will be able to convey creative pattern design ideas in accordance with textile pattern design elements, composition rules, and digital design principles", the fact that the scores under the heading "compliance with composition principles" in the table were 8 and above indicates that participants paid attention to digital design principles.

As a result, the data presented in the table supports the general hypothesis: "The student will be able to enhance creative thinking skills by determining main and sub-themes using the mind mapping method and will be able to design original and innovative patterns based on expert evaluation analyses." The participants enhanced their creative thinking skills by determining main and sub-themes through the mind mapping method in line with the stages of Osborn's 7-Stage Model, and they designed original and innovative patterns based on expert evaluations.

RESULTS AND DISCUSSIONS

The findings of this study demonstrate that the integration of Osborn's 7-Stage Model into the textile design process provides a structured and systematic approach to supporting creativity during the stages of idea development, conceptualization, and concretization. The students' development of original design approaches based on different sources of inspiration, along with the gradual use of methods such as mind mapping, research, concept development, and digital pattern creation, reveals that the model has an adaptable and flexible structure that enables the emergence of creative idea alternatives. Furthermore, the individual thoughts and differences emerging during the Incubation stage are directly associated with the student's/designer's individual experiences, aesthetic preferences, perception, and interpretation styles, which influence the resulting design outcomes.

The involvement of expert opinions during the verification stage enabled the developed designs to be evaluated not only in terms of aesthetics but also regarding applicability, producibility, and functionality through professional feedback. This process enabled the systematic evaluation of whether the original, creative, and innovative design process had been implemented in a coherent and acceptable manner. These findings support the view that the creative process has a non-linear structure influenced by individual differences, while also demonstrating that the creative process in textile design can be addressed through a systematic approach. In this context, the studies by Arslan [16], titled "*Creative Process in Textile Pattern Design: Wallas' Four-Stage Model*," and Arslan and Çepni [27], titled "*Creative Textile Design: A Wallas Model-Based Approach*," have shown the applicability of creative process models by systematically addressing creative ideas within the textile design process.

The application of Osborn's 7-Stage Model in this study was limited to a relatively small sample of second-year undergraduate students enrolled in the Textile Composition course offered by the Department of Textile Design, which constitutes an important limitation of the research. Since the creative design outcomes were obtained from a specific course context, educational setting, and participant group, the findings cannot be directly generalized to textile design students at different academic levels. This limitation is attributable to potential differences in students' prior knowledge, design competencies, creative thinking skills, and readiness levels, which may influence both the design process and the quality of the resulting creative outcomes. Furthermore, the educational environment differs substantially from professional design practice. Unlike industrial design processes, educational projects are generally conducted without commercial constraints such as client requirements, production costs, delivery schedules, and market competitiveness. Therefore, the applicability and effectiveness of the model observed in this study may not fully reflect its performance in professional textile and fashion design settings. Similarly, in the creative design ideas generated by professional design teams in the textile and fashion industry through this approach, factors such as customer needs, demands, expectations,

product delivery schedules, and commercial requirements should be taken into consideration. It should not be overlooked that creative ideas may be shaped according to the extent to which the model responds to sectoral expectations and requirements. Particularly when considering the originality and innovativeness of design ideas developed in educational contexts alongside their ability to meet sectoral expectations, it should be acknowledged that creativity and originality may be subject to certain limitations.

Future research should evaluate Osborn's 7-Stage Model with larger groups of student participants in academic contexts, as well as with designers at different levels of professional experience and professional design teams within the textile and fashion industry. Furthermore, applying the model to different design disciplines may contribute to the analysis of creative outputs based on measurable criteria such as originality, applicability, aesthetic value, and functionality. Thus, the generalizability of the model, its capacity to support creativity in structured design processes, and its limitations in practice can be demonstrated through more comprehensive data. In addition, comparative studies involving different educational institutions, larger sample sizes, and cross-cultural contexts would provide stronger evidence regarding the robustness and generalizability of the proposed approach.

In conclusion, this study demonstrates that Osborn's 7-Stage Model contributes to students' ability to manage their creative processes in a planned manner, develop alternative solutions to design problems, and produce original and innovative pattern designs. It also contributes to the literature by demonstrating the applicability of creative process models in textile design. In this context, the model can be considered an applicable and effective approach in the textile pattern design process. Furthermore, the study is significant in terms of promoting the wider use of creative thinking models in textile design education, where originality and innovation are becoming increasingly important, and encouraging further investigation of their applicability across different design disciplines.

CONCLUSIONS

In the first and crucial stage of the creative process – Orientation – participants conducted comprehensive research to define their design problems and, based on their findings, determined the themes upon which they would develop their pattern designs. During the Preparation stage, participants collected data such as colors, motifs, and visuals that would support their idea generation processes related to their chosen themes.

In the Analysis stage, participants used the mind mapping method to break down their main themes into sub-themes. At this stage, the two groups followed different paths: Group 1 divided their design process into more detailed sub-themes using the mind mapping method, whereas Group 2 did not break down their main theme into detailed sub-themes but instead adopted a direct approach aligned with their central theme. In the Hypothesis stage, participants identified alternative hypotheses in line with the main problem and transformed these into a single general hypothesis statement, from which they developed various pattern design proposals. The Incubation stage – characterized by the need for rest or a break in the pattern design process – varied depending on individual differences. While some participants chose to take a break from pattern production, others continued to work throughout the process. During the Synthesis stage, participants reviewed the pattern designs they had developed up to that point within the scope of their themes, refining elements such as color, motif, and repeat to form cohesive final designs. In the Verification stage, participants made final revisions in accordance with the selected production technique and produced their final designs using the digital printing method. The completed designs were then evaluated by a committee consisting of faculty members from the Textile Design Department. In conclusion, this study demonstrates how Osborn's 7-Stage Model can be integrated into the textile pattern design process. While Group 1 (The Language of Sculpture/Modern Typography) developed their designs with a historical and artistic approach by focusing on typographic and sculptural forms, Group 2 (Met Gala) adopted a perspective rooted in popular

culture and fashion. Both groups systematically carried out their design processes by supporting the stages of the 7-Stage Model with methods such as mind mapping, repeat pattern analysis, and digital pattern development techniques.

Through the refinements made in the Synthesis and Verification stages, the designs were improved in terms of aesthetics, functionality, and producibility, resulting in final patterns suitable for digital printing. In this context, Osborn's 7-Stage Model was successfully integrated into the textile pattern design process and contributed to generating original and innovative results in pattern design by enhancing idea generation at every stage of the creative process.

Acknowledgements

We sincerely thank the undergraduate students Buket Hatice Kabaçalı (P1), Rümeysa Demir (P2), Sueda Kılıç (P3), Sıla Fatma Türkmen (P4), Rümeysa Okyay (P5), Elif Yaren Bilgin (P6), Aybüke Coşkun (P7) for their valuable support and contributions to this study.

REFERENCES

1. Yeşilyurt, E., Creativity and Creative Thinking: A Comprehensive Review Study with All Dimension and Stakeholders (in Turkish), *OPUS Int J Soc Res*, **2020**, 15, 25, 3874-3915, https://doi.org/10.26466/opus.662721.
2. Kurtuldu, E., Önlü, N., Creativity, Creative Thinking, Future and Foresight in Design (in Turkish), In: *Proceedings of the II International Symposium on Art and Research*, Çukurova University, **2018**, 105-112.
3. Johansson, F., *The Medici Effect: Breakthrough Insights at the Intersection of Ideas, Concepts, and Cultures* (in Turkish), translated by D. Tayanç, 2nd ed., MediaCat, İstanbul, **2013**, 16-17.
4. May, R., *The Courage to Create* (in Turkish), translated by A. Oysal, Metis Publications, İstanbul, **2013**, 83-96.
5. Aslan, A.E., Creativity in the Conceptual Dimension (in Turkish), *Turk Psychol Couns Guid J*, **2001**, 2, 16, 15-21, https://doi.org/10.17066/pdrd.72200.
6. Kahraman, Z., Determining the Creative Personality Characteristics of Textile and Fashion Design Department Students: The Case of Cankiri Karatekin University (in Turkish), *Journal of Ankara University Faculty of Fine Arts,* **2023**, 5, 2, 394-419, https://doi.org/10.58608/augsfd.1201522.
7. Batı, U., *Making Perfect Decisions and the Art of Persuasion: Using the Brain Effectively* (in Turkish), 4th ed., Dogan Book, İstanbul, **2020**, 143.
8. Craft, A., Creative Thinking in The Early Years of Education, *Early Years: An International Journal of Research and Development*, **2003**, 23, 2, 143-154, https://doi.org/10.1080/09575140303105.
9. Torrance, E.P., Goff, K., A Quiet Revolution, *J Creat Behav*, **1989**, 23, 2, 136-145, https://doi.org/10.1002/j.2162-6057.1989.tb00683.x.
10. Öncü, T., A Comparison of the Creativity Levels of 12–14-Year-Old Children by Age and Gender Using the Torrance Tests of Creative Thinking–Figural Test (in Turkish), *Journal of Ankara University Faculty of Languages, History and Geography,* **2003**, 43, 1, 221-237.
11. Arkan Sezgin, K., Baysal, Z.N., Examining the Effects of Thinking Skills Program Developed for the Primary School 3rd-Grade Students on Their Creativity Levels (in Turkish), *Hayef J Educ*, **2019**, 16, 1, 19-47, https://doi.org/10.26650/hayef.2019.19008.
12. Önlü, N., Creativity and Functionality in Design: Its Place in Textile Design (in Turkish), *Atatürk University Journal of Social Sciences Institute*, **2010**, 3, 1, 85-95.
13. Studd, R., The Textile Design Process, *The Design Journal*, **2002**, 5, 1, 35-39, https://doi.org/10.2752/146069202790718567.
14. Chan, C.S., *Style and Creativity in Design*, Springer International Publishing AG, Cham, Switzerland, **2015**, 1-6.
15. Arslan, P., Creative Process in Textile Pattern Design: Wallas' Four-Stage Model, *The Journal of Academic Social Science Studies*, **2021**, 14, 85, 199-218, http://doi.org/10.29228/JASSS.49901.
16. Wallas, G., *The Art of Thought*, Harcourt Brace Jovanovich, New York, **1926**.
17. Osborn, A.F., *Applied Imagination; Principles and Procedures of Creative Thinking*, Charles Scribner's Sons, New York, **1953**.
18. Mednick, S.A., The Associative Bases of the Creative Process, *Psychol Rev*, **1962**, 69, 220-232, https://doi.org/10.1037/h0048850.
19. Rothenberg, A., The Janusian Process in Scientific Creativity, *Creat Res J*, **1996**, 9, 207-209, https://doi.org/10.1001/archpsyc.1971.01750090001001.
20. Akman Dömbekci, H., Erişen, M.A., Interview Technique in Qualitative Research (in Turkish), *Anadolu University Journal of Social Sciences*, **2022**, 22, 2, 141-160, https://doi.org/10.18037/ausbd.1227330.
21. Türnüklü, A., Interview: An Effective Qualitative Research Technique that Can Be Used in Educational Sciences Research (in Turkish),

Educational Administration: Theory and Practice, **2000**, 24, 543-559.
22. Sert, H., Ölçer Demirkıran, S., Arslan Göz, P., Beler, H., A Qualitative Research Method: Interview (in Turkish), *Journal of Social, Humanities and Administrative Sciences*, **2023**, 9, 71, 4071-4075, http://doi.org/10.29228/JOSHAS.74031.
23. Buzan T., Buzan, B., *The Mind Map Book*, Dutton Book, New York, **1993**, 59.
24. Allaire, C. Met Gala 2024: The Best Red Carpet Looks (in Turkish), Vogue, **2024** [accessed 2025], available from: https://vogue.com.tr/unlu-stili/met-gala-2024-en-iyi-kirmizi-hali-gorunumleri-21914.
25. Arslan, P., Çepni, K. Creative Textile Design: A Wallas Model-Based Approach, *New Des Ideas*, **2025**, 9, 3, 847-864, https://doi.org/10.62476/ndi.93847.

© 2026 by the author(s). Published by INCDTP-ICPI, Bucharest, RO. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).