

Sustainable Thinking in Design: An Integrated Practical Approach between Fashion Design and Hanging Textiles Printing Design

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Abstract:

Sustainability is the result of design philosophy in the modern era as a result of great industrial developments and conflicts. This concept has been prompted into this paper by the possibility of achieving sustainability principles practically through rhythmic kinetic music show for fashion design in which all the show items were integrated together to serve the concept of sustainability including clothing design which is based on materials recycling process and hanging textile printing designs inspired from the Egyptian heritage as show backdrops. The heritage-inspired design has a cultural meaning and significance aims which is transmitting our heritage to our young generations, and therefore it is considered a kind of sustainable thinking in design. Research problem can be stated in how can recycling process and sustainable thinking be used in creating a full-fledged fashion show based on sustainability approach? The paper explores the concept of sustainability from perspective of the practicing designer of two different disciplines fashion design and design of hanging textiles through a practical approach for fourth-year students in the department of ready-made garments and department of textile printing, dyeing and finishing in faculty of applied arts- Damietta university.

Keywords:

Sustainable Thinking, Practical Approach, Fashion Design, Hanging Textiles Printing Design, Egyptian Heritage.

المخلص:

إن الإستدامة وليده فلسفه التصميم فى العصر الحديث نتيجة للتطورات الصناعيه الكبيره والصراعات والحروب الكثيره. هذا المفهوم هو الذى دفع للتوجه نحو هذا البحث فى إكمانيه تحقيق مبادئ الإستدامة عملياً - فى الواقع الميدانى- من خلال عرض موسيقى إيقاعى حركى لتصميم الأزياء حيث إتحدت جميع عناصر العرض لخدمه مفهوم الإستدامة ومن أهمها تصميم الملابس نفسه المعتمد على عمليه إعادته التدوير للخامات، بالإضافة الى تصميم الخلفيه المستخدم لتدعيم فكره الإستدامة من خلال الإستعانه بتصميمات طباعه المنسوجات المعلقه المستوحى من التراث المصرى. فالتصميم المستوحى من التراث ينطوي على معني ومغزى ثقافى والغرض منه نقل تراثنا لأجيالنا الناشئة وبالتالي فهو يُعد نوع من أنواع الفكر المستدام. يمكن تحديد مشكله البحث فى كيفية الإستفاده من عمليه إعادته التدوير والفكر المستدام فى إبتكار عرض موسيقى إيقاعى لتصميم الأزياء والإستعانه بتصميمات طباعيه للمنسوجات المعلقه كخلفيه لهذا العرض؟

هذه المقالة تكشف عن الرؤية التصميمية والتشكيلية المعاصرة لتطبيق مفهوم الإستدامة من منظور المصمم الممارس في كلاً من مجال الموضة ومجال تصميم طباعة المنسوجات المعلقة من خلال منهج عملي لطلاب الفرقة الرابعة بقسم الملابس الجاهزة وقسم طباعة المنسوجات والصباغة والتجهيز بكلية الفنون التطبيقية بجامعة دمياط.

الكلمات المفتاحية:

التفكير المستدام، التصميم، تصميم الازياء ، المنسوجات المعلقة المطبوعه

1- Introduction:

Sustainability is the ability to exist continuously, in other words it refers to a specific activity or action to be continuous. Therefore, sustainable thinking is a philosophy that can be applied to all aspects of life that needed to be allowed to survive and prevent its depletion. Accordingly, the paper seeks to shed light on sustainable thinking and how to achieve it in more than one field - the field of fashion design and hanging textiles printing design- with more than one vision and design thinking; and how to combine them through a case study of a fashion show which actually took place in faculty of applied arts -Damietta university. Whereas, we the researchers, as lecturers in the faculty, create the philosophical framework for sustainable thinking in design and transformed it into an integrated practical approach (fashion design show) implemented by students of the fourth year of the faculty in both of department of ready-made garments and department of textile printing, dyeing and finishing under our guidance and supervision. This show is a multidisciplinary approach that promote joint collaborative thinking in order to achieve integration in the design process of a product and how it can be presented to the consumer. The design of printing hanging textiles in this study are the backdrops that will be used in the fashion show in a way that is consistent with the concept of sustainable thinking in design, which is the same principle on which the costume will be designed.

We can point out that the principle of collaborative work and joint production in this article is a result of the developed form that fashion shows have reached in recent years and what these shows include in terms of thought, design and outputs. The concept of fashion show has changed from just a place in which clothing is displayed to an event or a system with integrated elements and items united with each other such as the backdrops used in the show, movement of models in the show, music accompanying the show in a rhythm parallel to the purpose for which the clothing is designed in order to present the garments in an interesting show that attracts the viewer.

2- Stage layout and backdrops in Fashion Show: Relation between Fashion Show and hanging textiles printing design:

Fashion shows of many international designers took a strong and fast place through which they were able to create a deep linkage and emphasize on the close relationship between costume design and design of their backdrops which create a new entity for fashion shows and their concept. Fashion shows recently emphasized on the integrated system of all show parts starting from the idea, aim then artistic vision, elements of the show and show layout. In Chanel Spring 2015 fashion show could represent this integrated system where Karl Otto Lagerfeld - the chief designer of Chanel fashion house- brought to life a paper-cut tropical garden after they had been

creating it for six months. Karl's garden contained 300 flowers each of them had its own engine, and at the show's start, Baptiste Giabiconi applied a theatrical splash from a CC-branded watering can and they simultaneously burst into mechanical bloom, it felt like Spring in a world where the only life left was this small synthetic paradise or maybe it's a world that never existed in the first place. (Blanks, 2015) (www.vogue.com/fashion)

Thus, the fashion show stage design was well prepared and planned to serve the idea and purpose in which the costumes were designed. All show elements were subjected to achieve the main concept of the show which is the idea of spring or costume design for spring e.g., venue selection, backdrops, lighting in order to curate an exclusive experience for industry insiders. The music accompanying the show, movement of models, interior decorations and backdrops, all elements confirmed the idea for which the costumes were designed for, where mechanical flowers bloomed with the start of the show as if spring started from this place. So, it is very important and exciting that the place design, its backdrops and all show items could affect the designs as well as the viewers.



Figure (1)



Figure (2)

Figure (1,2) Stage design of Chanel Haute Couture Spring/Summer 2015

Another example about the importance of backdrops in fashion shows, is the Chanel fashion show for spring-summer 2014, where the show space was designed as if it was an art gallery through paintings that were designed to be hung on walls of the hall. Public show system was gathered together to confirm Karl Lagerfeld's concept and thought which is art. His designs of clothes were like brushstrokes and the backdrops were designed to serve the show concept.

The fashion show stage layout was transformed into a gigantic white-walled hall of sculptures and paintings. All seventy-five of them were drawn by Lagerfeld and were implemented by his studio. The artworks included some elements of Chanel: a pearl, a camellia, a bottle of No. 5. (Blanks, 2013) (www.vogue.com)

Correlation of concept and design had a clear impact on the way, style and theme in which the Chanel fashion show appeared. The designs -whether fashion or backdrop designs- have been processed and reconstructed to achieve the close linkage between art and fashion.

This Chanel collection was a feast of art processes. Makeup looked like an artist had wiped his brushes on eyelids instead of on clothes or canvas, in keeping with the theme. In brief, Lagerfeld's collaborators kept the dream alive with their impeccable contributions.



Figure (3)

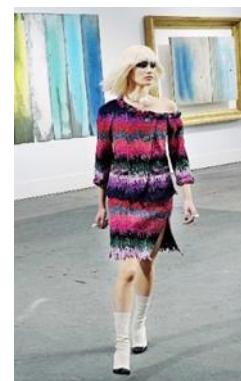


Figure (4)

Figure (3,4) Stage design of Chanel Haute Couture Spring/Summer 2014

Thus, an integrated approach is the key when designing a show in order to reveal the collection's concept in its most relevant form. The show must be planned to create the general atmosphere that the designer wants to share with audience in order for the viewer to enjoy the show and at the same time to be influenced by it. This is what the current paper seeks in creating sustainability atmosphere in an exciting show that attracts the viewer's interest through an integrated practical approach that combines both of costume design and backdrop design from designs of hanging textile printing in accordance with the general idea which is sustainability.

3- Case Study Background: Analysis of the Entity of “Life Mannequin” Fashion Show:

Fashion shows are the means in which designers can strengthen their interaction with the audience to build a deep correlation between consumers and products, in other words it is a way to communicate the correct message or effect, in order to reinforce designer's work (Odabaşı, 2019, P. 546-554). Recently, fashion shows can be read as minidramas; integrated with concepts, themes, characters, music and a particular location. They can be referred as a theatre without a plot (Duggan, 2001). The stage design -layout and backdrops- create a special visible kingdom where identities are created through visible performances (Enwistle and Rocamora, 2006, P. 735-751).

This modern trend in fashion shows was achieved in this case study of a fashion show titled by “life Mannequin”. We will analyze the show entity through reviewing the steps of designing and implementing the show. It is necessary that all show elements be in harmonization to reach the maximum enjoyment by audience.

Analysis of “Life Mannequin” fashion show can be shown in the following steps:

- **First:** Choosing the show idea, which is a general concept that attracts the designer, then organize an integrated plan to design each part of the show to create a fashion show that serves the proposed concept. In terms of the current research, the general show idea is sustainability, and therefore, the concept of "sustainable thinking in design" has become the main objective of the show and its design process.
- **Second:** Efforts to direct the design process of cloths, show backdrops, models movement inside the show and the accompanying music -all show items- to emphasize the concept of sustainability and thus produce a more enjoyable event for the viewer.

- **Third:** Determining the show timing, its place and amount of clothes to be displayed, additionally, counting models' number and total show duration. In this study, a fashion show was held in the "The Great Hall of Faculty of Applied Arts - Damietta University". It is a result of a joint work between the students of the fourth year of the faculty. The show timing was determined to be at the time of student activities allocated for such shows. The show took about 15 minutes, in which (6) designs of clothing were displayed by (6) models.
- **Fourth:** Design the show hall and determine the design idea of hangings that will be hung on the hall walls and their quantity. In the current study, 66 designs for printing hanging textiles were used as backdrops for the fashion show. They are designed in accordance with the concept of "sustainable thinking in design" through inspiration from the Egyptian heritage arts.
- **Fifth:** Create the scenario for models entering the show stage and their movements inside the hall commensurate with the music rhythm of the show. Music in any fashion show is one of the most important items that plays an important role in the show success. In this case study, the show music was full of strength, vitality and kinetic energy to increase the viewer's energy and attract their attention. Planning, arranging, and training of models about their movements inside the grand hall have been done to give a sense of dramatic power commensurate with music rhythm and enrich the show idea, which is sustainability. By combining all show elements and their integration with each other, we can resume that fashion shows are not only a means to display new clothes design, but rather a set of factors and elements harmonious together to create a visual state engraved in the viewers' memory as a result of their enjoyment of it.

4- The Concept of “Life Mannequin” Fashion show:

The concept of any show is the theme that will be used as inspiration for all designs related to the event. At this point, it is necessary to investigate, analyze and deepened the chosen theme. This process is important for the layout that leads to information which can be considered the basis that determines both of the characteristics of the product and the design thinking plan that will be followed in all show elements. This case study “Life Mannequin” fashion show (Figures 5,6,7,8,9,10) adopts the concept of sustainability, thus the keyword of this show is “sustainable thinking in design”.



Figure (5)



Figure (6)



Figure (7)



Figure (8)

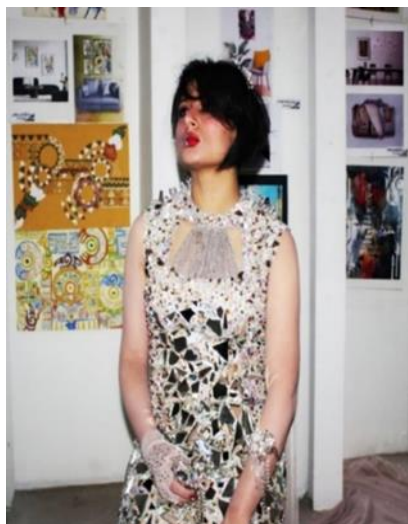


Figure (9)

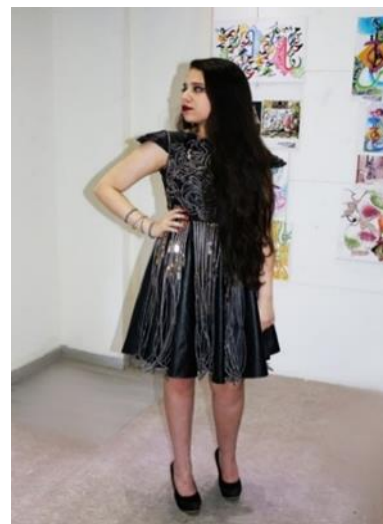


Figure (10)

Figures (5,6,7,8,9,10) The case study “Life Mannequin” fashion show emphasizes a practical approach between fashion design and hanging textiles printing design

Sustainability in itself is not a new phenomenon, but rather it has been investigated as early as the 1960s when consumers started to be more concerned about the impact of their consumption patterns on the natural environment (E. Henninger, Claudia - 2017 – P. 3). Sustainability means being able to satisfy current needs without compromising the possibility for future generations to satisfy their own needs. Dimensions of sustainability have been introduced through the concept of the triple bottom line: Environment; Economy; Society. (Cimatti, Barbara - 2016 – p. 394)

It has been planned that every part and show item will achieve and confirm the concept of sustainability. The most important items were the fashion design and design of hanging textile printing that will be used as backdrops to be hung on the walls of the show hall.

Accordingly, our first step was to innovate a design approach based on two main parts to adapt the concept of “sustainability” in order to be applied in the show. It was implemented by students of the fourth year in both of department of ready-made garments and department of textile printing, dyeing and finishing in faculty of applied arts - Damietta university under our supervision and guidance.

- **The first part** (Fashion design): in which students of department of ready-made garments apply sustainable thinking in fashion to innovate fashion collection that carries this concept through the process of recycling of materials found in the environment.
- **Part Two** (Design of hanging textile printing “show backdrops”): in which students of department of textile printing, dyeing and finishing applied sustainable thinking in design of hanging textiles as backdrops used in the interior decorations of the show hall, through designs inspired by the features of the Egyptian identity, because designs which are inspired from heritage has a cultural significance, which is the transmission of heritage to younger generations with an updated and innovative artistic vision that is consistent with the progress of society. Therefore, it is considered a type of sustainable thinking that supports the philosophy and concept of sustainability.

Subsequently, we achieved an integrated practical approach in the form of a “fashion show” that combines design outputs in both clothing and design of printing hanging textiles. In the

same time the show will be interesting and attractive to the viewers' attention when taking into account all show aspects including the rhythmic movements of the models inside the hall and the accompanying music.

The design process used in designing both of hanging textile printing and clothing confirms the idea of (old is gold), so, using the Egyptian heritage in the design of hangings enriches the artistic value of the show backdrops. It is a kind of preserving cultural identity and the ability to be revived in the light of development. In terms of recycled materials which were incorporated in the clothes design, they were not considered as wastes to be disposed of, but a plan was organized in order for them to be recycled again to enrich the design thinking of clothes.

This explains the concept of the show's title which is "Mannequin of Life" as shown in table (1), it stems from the idea of sustainability and its purpose. In this show, we tried to convey to the viewer the sense of life, importance of respecting it and preserving everything contained within it through the concept of "sustainability" which allows humanity to continue and not to perish, and thus live to survive. If we think about the philosophy of sustainability, we find that it is based on respect of human life, the ability to continue, and thus the ability to live and preserve. From this philosophy, we named the show "Mannequin of Life" as if life stems from this show, starts from this hall and presents with backdrops designs of printed hanging textiles inspired by the Egyptian heritage and also carried by models through clothes based on the idea of recycling. How it is interesting for the design of the hall backdrops to influence the design of the outfit and thus have a profound effect on the viewers

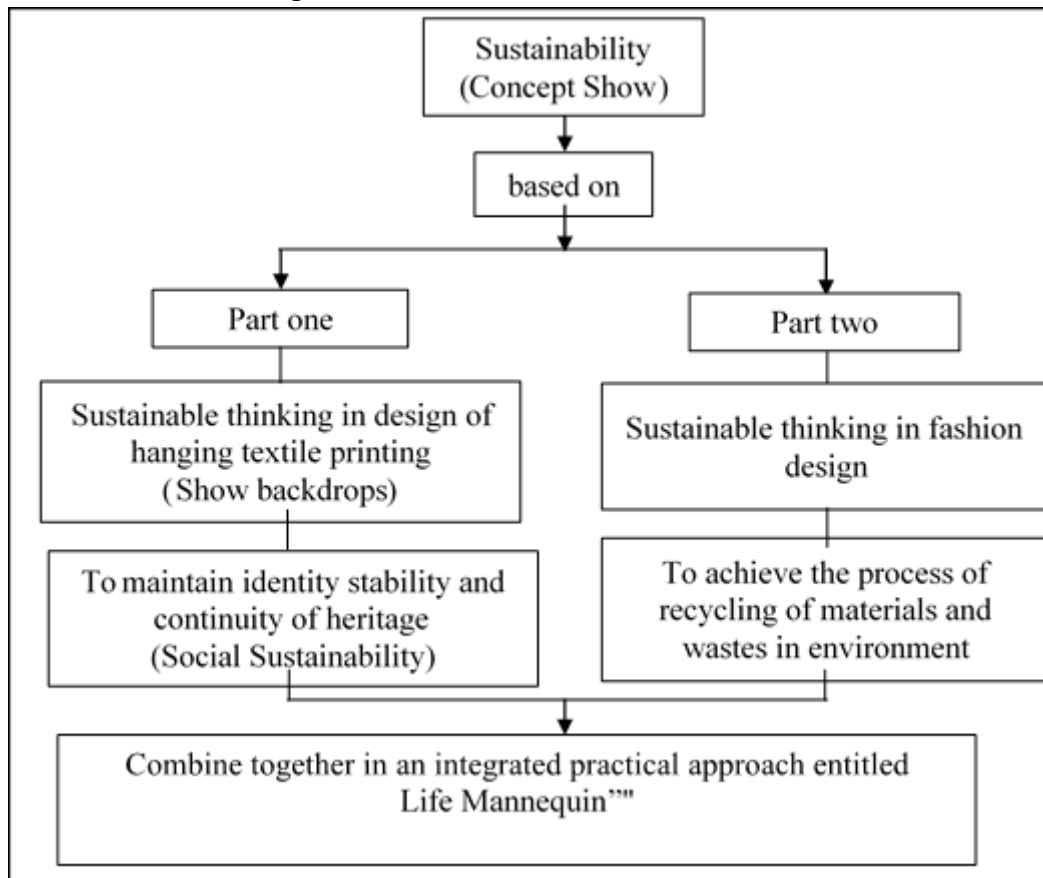


Table (1) illustrates the application of sustainability concept in an integrated practical approach titled by "Life Mannequin"

5- Sustainable Thinking in Clothing Design for “Life Mannequin” Fashion Show:

When the world garment market and companies are focusing on eco-friendly products, it is the time to adopt special strategies and approaches towards sustainability. (Mostafa, Amany -2017 – p.233). The sustainable design approach adds to the aforementioned the ethical and social dimensions of the product, in its manufacturing, use and disposal phases (Mohamed, Olfat Shawki – 2019 – p. 42). Consumption is sustainable when consumers reduce the quantity of goods they consume and choose products made through processes that support social and environmental integrity. Sustainable consumption involves pre-purchase, purchase and post-purchase of components. It is possible only when sustainable product choices are available for purchase. (Kristy Ann Janigo – 2011 – p. 5)

Fashion designers have tended to view sustainability as an afterthought to their design practice, and so the integration of sustainable strategies within fashion design process is not typically considered (Gwilt, A.– 2011 – p. 69). While designers must realize that open, complex problems and opportunities, solutions that require understanding of the entire system. (Kozlowski, Anika - 2018 – p.196) Sustainable designer must create innovative sustainable design which its methodologies used in practice and can address some form of emotional, expressive, or physical qualities of the garment being produced in order to allow greater user satisfaction and a longer function (wearing) cycle. (Risner, Kim M. - 2014 – p. 10)

Sustainable fashion solutions based on the repositioning of design strategies, production, consumption, use, and reuse, which are emerging alongside the global fashion system, and are posing a potential challenge to it. The slow approach offers more sustainable and ethical ways of being fashionable that have implications for design, production, consumption, and use. (Joy, Annamma– 2017 – P. 36) This sustainable strategy provides the opportunity to reassess the real worth and value of a waste material thorough the design and manufacture of new products (Gwilt, A. – 2011 – p. 35).

5-1- Experimental Applications of Clothing Designs:

5-1-1- Recycling Plastic Wastes into Aesthetic Garments:

Plastics have become a major problem facing the world, there has been a dramatic increase in plastic wastes that ends up through dumping them into water which has effects on marine life. Marine debris, three-quarters of which is made of plastic, contributes to biodiversity loss and may pose a threat to human health and activities. (Northrup, Alyson K.– 2019 – p. 1) So, the purpose to create designs using abandoned materials such as plastic bottles, compact disk (CD-R), linoleum and resin Epoxy, to combine fashion with plastic design in order to create an environmental balance through innovation of eco-friendly designs that is functional, expressive, and aesthetically pleasing to consumers.

➤ First Design:

Materials used: plastic bottles – golden Spray – tulle – satin.

Methodology:

- 1- Recycled one-liter sized plastic water bottles, their bottoms were cut and some of the cutting pieces were converted to flowers and leaves.
- 2- A golden color was sprayed on, and let the flowers and leaves to dry for about 24 hours, after that gold leaves were gilded, then waited for another 24 hours. A brush was used to trim the gold plating as shown in figure (11).
- 3- Once the gold-plated plastic flowers were ready and the dress was sewed, the golden plastic flowers had glued on the dress, to give it the final look as shown in figure (12).



Figure (11) Steps to convert plastic bottles to golden accessories

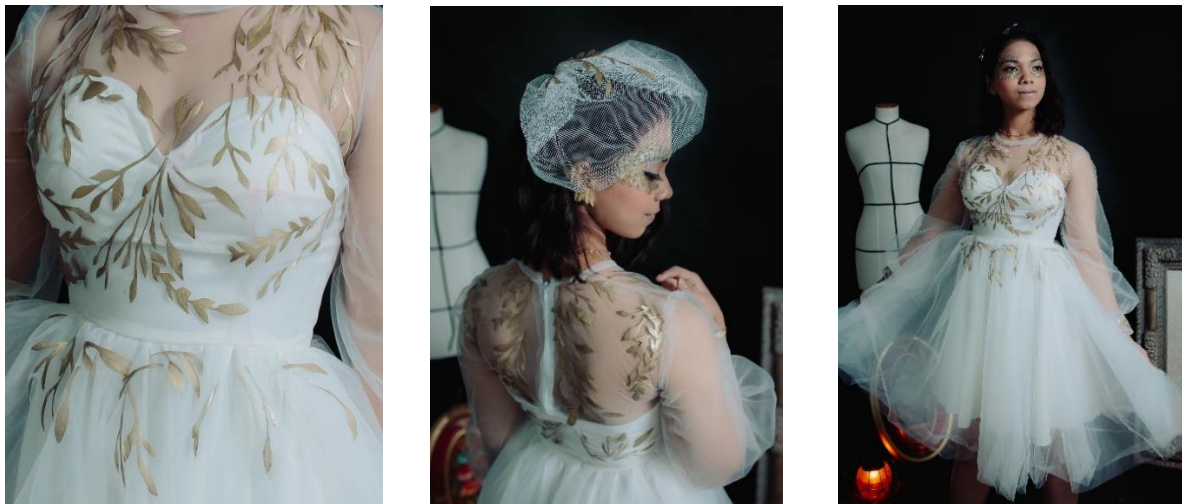


Figure (12) A dress design decorated with golden plastic leaves made of bottles

➤ **Second Design:**

Materials used: compact disk (CD-R) – plush fabric – tulle.

Methodology:

- 1- Decorative pieces are designed in the form of triangles to put on the cloth design. Compact disks (CD-R) are to be used for these pieces.
- 2- The compact disks (CD-R) were converted into triangles on CAD program. They were pasted and encapsulated with light plywood to facilitate the accurate cutting process without damage.
- 3- The compact disks (CD-R) were cut by using laser machine, then the adhesive plywood was removed from the cut pieces as shown in figure (13)

4- After finishing the dress sewing, we put the dress on the mannequin and fixing the triangle compact disks (CD-R) pieces on the dress as shown in figure (14) to achieve the shape of the design drawn in the design sketch as shown in figure (15). Also, design supplements inlaid with parts of the compact disks (CD-R) in the form of a bag, head cover, gloves, shoes, hair hoop and earrings as shown in figure (16).



Figure (13) Steps of cutting compact disks (CD-R) to pieces



Figure (14) Steps of sticking compact disks (CD-R) pieces to the dress

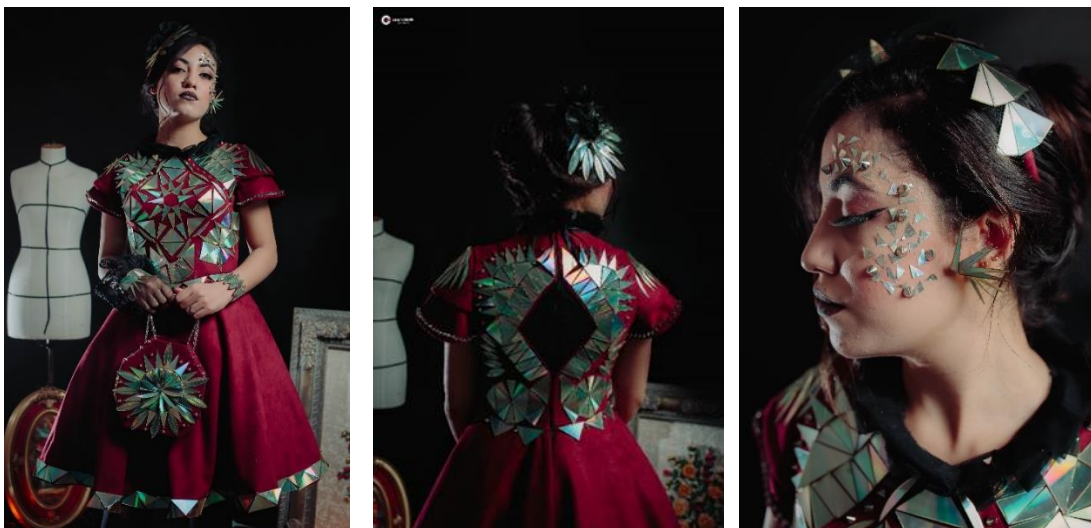


Figure (15) The innovative dress decorated with compact disks (CD-R) pieces

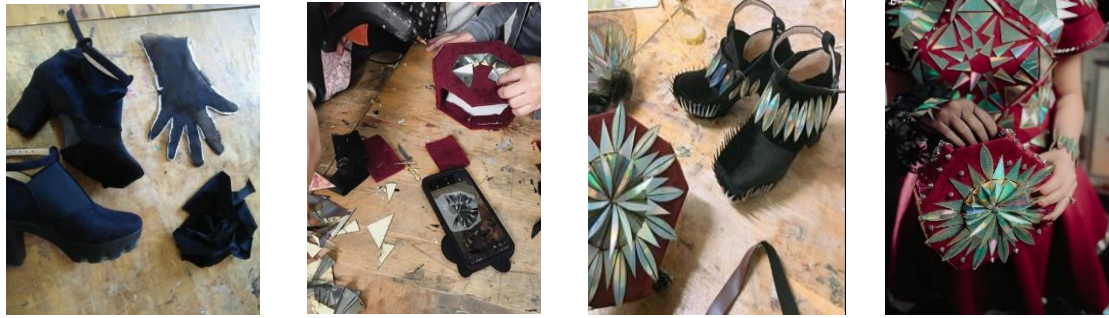


Figure (16) Steps of making creative accessories

Third Design:

Materials used: epoxy resin – tarpaulin - chiffon – lining – fabric colors.

Methodology:

- 1- Transparent tarpaulin was cut according to the drawn pattern design, two layers of each piece. The main material in this design is called epoxy which refers to the basic components or cured end products of epoxy resins. Epoxies are the resins most commonly employed for electrical and electronic applications. Selection of epoxies is based on their superior adhesion, permeability, purity, corrosion and stress-resistance properties. (May, Clayton -2018- p. 65).
- 2- Epoxy was prepared and mixed with a fabric dye, one layer of each piece was spread to the tarpaulin after cutting and placing the epoxy mixture on it. Then waiting for it to be fixed and dried as shown in figure (17). The second layer was placed on the first one and between them a mixture of epoxy to maintain the epoxy durability.
- 3- After finishing all pieces and stitching them, decorations were made using a wax gun. Small blue solid stones of epoxy were made, attached to the chest of the dress and skirt. Also, the design supplements were made of solid Epoxy such as earrings and hair hoop as shown in figure (18).



Figure (17) Materials used in the dress design



Figure (18) The innovative dress using epoxy resin

➤ Fourth design:

Materials used: sticky gel – transparent linoleum - tiny plastic toys.

Methodology:

- 1- Linoleum was cut, then lining was sewn.
- 2- The linoleum parts were pressed by heat press machine, three sides for each cut pattern piece to place the sticky material inside and tiny plastic toys inside the linoleum. Finally, the last side were pressed to close the piece as shown in figure (19).
- 3- After all pattern pieces were pressed, it was the time for sewing them together to make the final look of the design, as well as design supplements that were two linoleum bags and a red stencil cap, they were made as shown in figure (20).



Figure (19) Steps of how using the gel between the dress and accessories layers, then sewing the different parts together

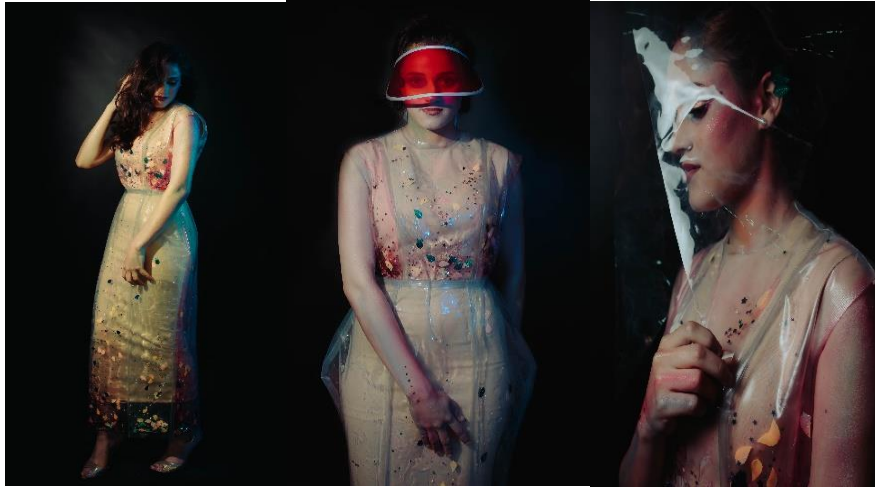


Figure (20) Dress innovated from transparent linoleum and gel

5-1-2- Recycling Zippers Wastes into Aesthetic Garments:

Metal zippers are essentially composed of three different metals which are stainless steel, aluminum and brass comprise. Most zippers regarding the teeth and sometimes the slider and tab. Stainless steel is the main component to these zippers and is made of iron, carbon, and chromium so that it will not oxidize as easily as other irons do. The stainless-steel zippers are often coated in brass to help protect against corrosion and more rust. Zippers can also easily be made out of aluminum. Unfortunately, all of these metals are a non-renewable resource that may run out in the future, until a new renewable source has been found to replace it (Tribuzi, 2014-www.designlife-cycle.com) . Therefore, the purpose is to reuse these zippers in a new design as a new method to save the non-renewable metals.

➤ First Design:

Materials used: old metal zippers – leather – chiffon - old beads.

Methodology:

- 1- The zippers and beads were collected from old unneeded clothes, then re-cut the zippers according to their use in the design as shown in figure (21).
- 2- After cutting the front and back, the prepared zippers were formed smoothly on the piece according to the design, then the beads were placed between the curves of the zippers to give them the appropriate aesthetic shape as shown in figure (22).
- 3- Finally, the parts of the dress were stitched together as shown in figure (23), as well the accessories of the outfit were also made of zippers (earrings – a hair buckle - bracelet) as shown in figure (24).



Figure (21) Steps of cutting the outer fabric pieces in the zippers



Figure (22) Steps of putting the zippers and beads on the front corset

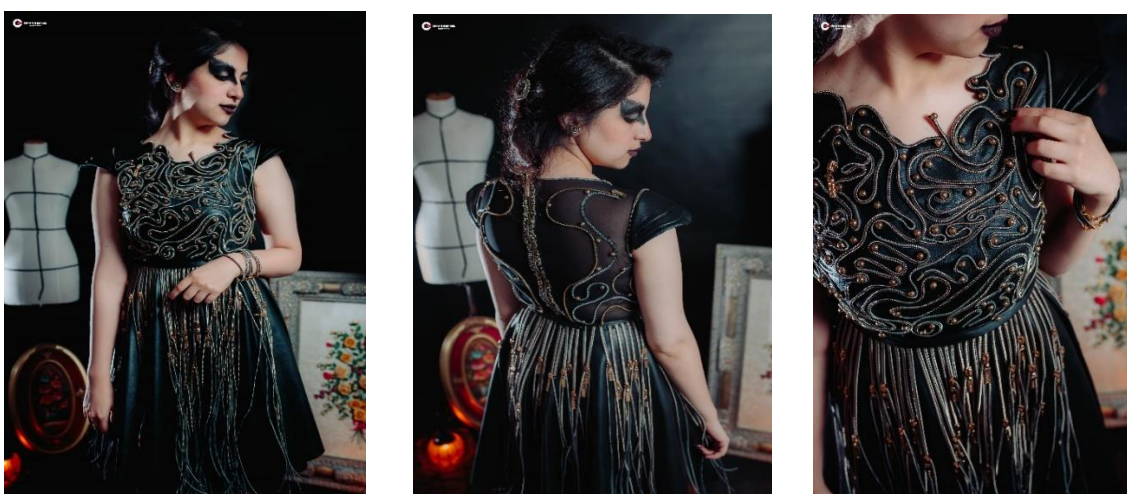


Figure (23) Front and back of the designed dress by using old zippers

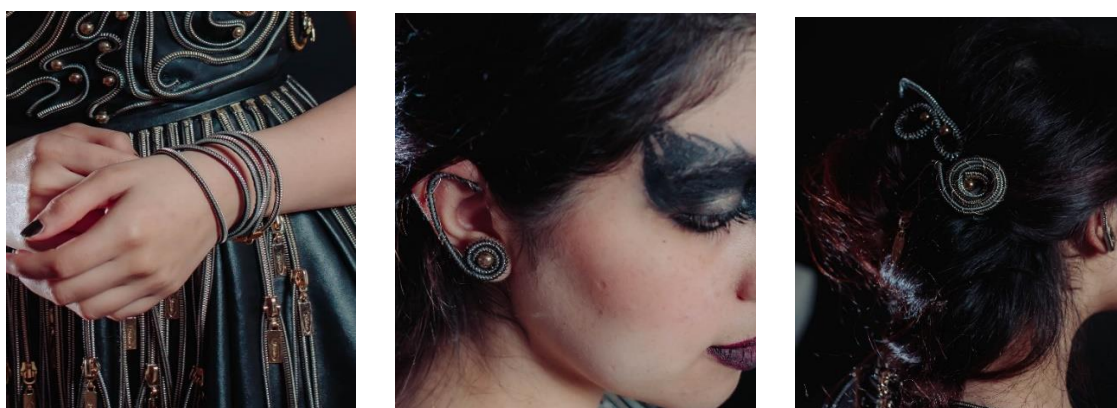


Figure (24) Various accessories by using zippers

5-1-3- Recycling Glass Wastes into Aesthetic Garments:

Glass is 100% recyclable and can be recycled endlessly without loss in quality or purity, as it is made from readily-available domestic materials, such as sand, soda ash, limestone and “cullet,” the industry term for furnace-ready recycled glass. But some recycled glass and mirrors are not able to be used in the manufacture of new glass bottles and jars or to make fiberglass. This may be because there is too much contamination or the recycled glass pieces are too small to meet manufacturing specifications. So, the purpose is to use this type of glass in fashion in an artistic style as shown in figure (25).

➤ First design:

Materials used: crystal chandeliers - wires - mirrors - stained glass-stained crystal.

Methodology:

1- Putting a dress design that clarifies the idea of the project, making the dress pattern, cutting and sewing the fabric, searching for unneeded glass bottles, broken and damaged mirrors to use in the project.

2- Starting using the sanding and placing different types of broken glass in the sand and water for 24 hours and then sanding them to smooth their sharp edges. After preparing all the glass, starting to paste pieces of random mirrors in the middle of the front cloth piece as shown in figure (26). Afterwards, a small random bottle used between the random broken mirrors and on the sides of the front, while mirrors were cut regularly in the form of triangles and placed on the upper back as shown in figure (27).

3- Crystals were placed on the shoulders, making supplements such as earrings, sunglasses, gloves, socks, a hair buckle and bracelet as shown in figure (28,29,30,31,32,33).



Figure (25) Different shapes of glass which were used in the dress design



Figure (26) Steps of making glass edges smooth and sticking them on the dress

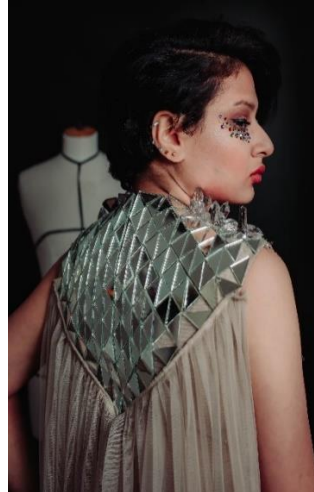


Figure (27) An innovative dress by using glass

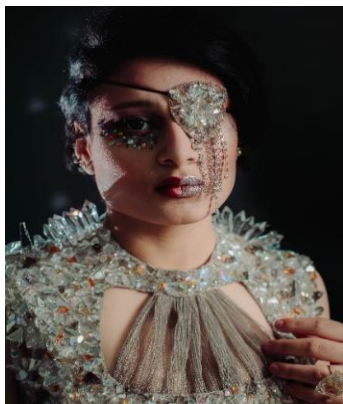


Figure (28)

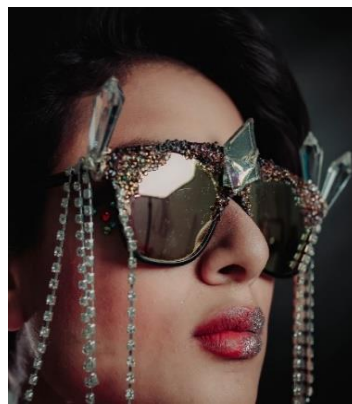


Figure (29)



Figure (30)

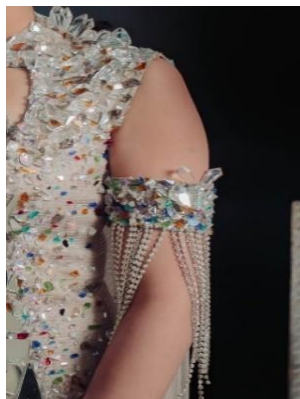


Figure (31)



Figure (32)



Figure (33)

Figure (27, 28, 29, 30, 31, 32,33) Different accessories pieces which are made of glass

6- Sustainable Thinking in Hanging Textiles Printing Design for “Life Mannequin” Fashion Show:

Sustainability can be applied in most areas of life, including social sciences under which culture falls. Cultural sustainability and cultural heritage are the strong cornerstone in any society because civilization, heritage and human formations represent culture of any society, and maintaining it is like preserving the self and identity. Therefore, cultural sustainability is a symbol of society’s cultural integrity (K., Soini and I, Birkland, 2014, P. 51:213-223).

Heritage is an ambassador for society's history and identity, a register of peoples' culture, methodology and human features. It is an essential reference for documenting intellectual and artistic heritage of a particular society. Within continuous development, there was a need that seeks to preserve heritage, civilization and culture and how to maintain their sustainability in order to remain identity and its continuity. Accordingly, the thought when designing of hanging textile printing as backdrops for the show to be hung on the hall walls was to shed light on the importance of cultural sustainability concept and its role in confirming the national identity through using of artistic features of the Egyptian heritage in innovating designs in accordance with the idea and concept of the fashion show; and in the same time bears the spirit and nature of modernity in the current era. The design solutions in this part work on linking the environment, thought and identity together in order to achieve intellectual sustainability of culture, civilization and the environment during succession of generations.

Inspiration from the Egyptian heritage in this paper depends on the intellectual and artistic content of the Egyptian society, which forms the aesthetics of art pieces, temples, buildings, handicrafts and other cultural products that reveal various fields and artistic trends owned by Egypt and clarify processes of design thinking at that time. If the designer is not aware by the creative valuables of the heritage and of the intellectual culture associated by it, then the heritage will disappear and be lost forever. The heritage products – inherited culture and civilization- must be dealt with as creative works bearing the features of a group and include a huge supply of decorations, inscriptions, shapes and artistic elements which achieve visual richness and diversity if they are used and employed in contemporary designs characterized by originality and imitation of heritage.

This what was sought in the design of hanging textile printing for the show. The aim is to revive the culture symbol and thought as well as sustainability of design state consistent with both show concept and development of society. In the same time, these innovative designs add a specific attraction inside the audience's perception of the cloths and enjoyment of the show.

6-1- Experimental Applications of Hanging Textiles Printing Design:

The design process for the backdrops of the show hall was planned so that the designs of hanging textile printing are inspired by elements and items of the artistic values of the Egyptian heritage, which is rich in shapes, colors and aesthetic valuables, in a way consistent with the general framework of the show and the spirit of the era. Three artistic styles of the Egyptian heritage have been identified as sources of inspiration in designs innovation, which are the arts of the Pharaonic era, Islamic and Egyptian folklore heritage.

A total of 66 innovative designs were achieved, and they are as follows: 39 designs inspired by the artistic forms of the Pharaonic era and 43 designs inspired by the Islamic heritage, while from the artistic vocabulary and decorations of the Egyptian folklore heritage 27 design ideas have been innovated for the show backdrops. In this paper some of the innovative designs (6 designs per each historical period) will be only shown as a model of the design thinking processes.

6-2- Methodology:

- a- Students firstly study and analyze the artistic elements and ornaments to find out the most important artistic features included in the ancient Egyptian art, Islamic and Egyptian folklore heritage in order to discover the expressive content that bears the Egyptian identity.
- b- Adapting these elements and artistic decorations to be used in the design ideas manually. The innovated hanging textile printing designs are related to sustainability concept which is the general aim of the show. The main concern was to achieve a common style between all fashion show parts. The pencil was used to make sketches and then they were colored in gouache on white and colored paper of different textures.
- c- Using the scanner to transfer the manual designs to the computer to give a kind of contemporary to the designs through graphic programs and in the same time maintaining the Egyptian identity in the innovated designs and their natural origin.
- d- Using of graphic programs -Photoshop and Illustrator- in forming of design ideas that leads to the development of manual designs through the use of many effects in computer programs and balancing between the artistic elements of the Egyptian heritage and the spirit of modernity in the current era to produce vibrant designs in order to distinguish the show; and subsequently, takes over the audience's attention and admiration. Aesthetic and structural principles have been considered in the designs of hanging textile printing.

Models of the design experience of the show backdrops inspired by the arts of the Egyptian heritage will be presented as follows:**6-2-1 -Models of designs inspired by ancient Egyptian art**

In this part, designs were inspired by the artistic elements of the pharaonic art. Students were directed to achieve the aesthetic values of ancient Egyptian art e.g., unity, balance, rhythm. The nature of shapes and drawings that formed this art have been studied in order to be included in the show backdrops designs. They are based on the concept of sustainable thinking in design and assert on the Egyptian identity.

In terms of designs color scheme, students were directed to keep the same colors of ancient Egyptian art such as light and dark yellow, black, white, blue, and green, but in different hue and saturation to be brighter and more attractive. Furthermore, we tried to approach the same spirit of techniques in some inscriptions and drawings on papyrus, temples, monuments and other artistic means which bears the feature of Pharaonic art. In addition, making gradations and color overlaps that give diversity in textures and spaces. Besides, adding color effects which create interesting harmonious rhythms and contrasting chromatic echoes that increase the value of the designs. Figure (34) shows models of the designs that were innovated and used as backdrops in the fashion show.



Figure (34) Models of designs of hanging textile printing inspired by ancient Egyptian art

6-2-2- Models of designs inspired by Islamic art:

Islamic art in Egypt despite being influenced by the Egyptian Coptic arts but it was distinguished by an independent thought manifested in the greatness of its effects, such as palaces and mosques which represent architectural monuments, in addition to, the artistic styles used in the decoration of buildings, glass, wood, ceramics and textiles. The decorative values of Islamic art were studied and analyzed in order to reveal the most important characteristics and formal features that helped in producing a set of designs for hanging textiles printing. The design traditions of Islamic motifs have been applied in the designs of show backdrops, such as abstraction of vegetal decorations, the use of geometric motifs and writings as a basic decorative element as well as the art of arabesques and their unlimited repetition (Hanash- 2017) in order to enhance the Egyptian identity and concept of sustainability.

In order to diversify the designs, the colour scheme was on hot and cold colors, which give a sense of movement and vitality. Besides, confirming the lighting positions to achieve contrast between light and dark, which asserts on areas being deep (down) and others being prominent (up). Also, achieving color gradients to create textures and embodiment of shapes. We will show below models of designs that were used to decorate the hall walls.



Figure (35) Models of designs of hanging textiles printing inspired by Islamic art

6-2-3 -Models of designs inspired by Egyptian folklore art:

Folklore art is a subject of a surreal synthetic metaphysical feature characterized by coherence and harmony. It is a mixture of life symbols, myths and tales. It is characterized by symbolism, spontaneity, transparency, flatness, clarity, and interest in hot colors and black outlines (Mohammed and Zaghloul, 2011, p.558). The ideas of this set of designs inspired by Egyptian folklore art to apply concept of social and cultural sustainability. This art is considered a national art that reflects the traditions and beliefs of the Egyptian society. It is influenced by the group theme which are often represented in the rural population and the popular neighborhood in the cities, therefore it should be preserved and maintain its continuity to enhance the concept of identity through using selections of distinctive Egyptian folklore elements in designs of hanging textiles to be used as backdrops in the fashion show.

Human motifs such as the eye as well as animal and geometric motifs were used within the design process, where elements of different and varied sizes have been combined together to create contrast and achieve a wonderful harmony in the innovative designs. In terms of color scheme, prevailing colors of the Egyptian folklore art have been used and their connotations in the innovated designs, such as white which expresses purity, black symbolizes sadness, blue expresses coldness, green indicates giving, yellow symbolizes jealousy, and red indicates love.



Figure (36) Models of designs of hanging textiles inspired by Egyptian folklore art

Results and Conclusion:

Interdisciplinary academic cooperation is the approach that must be practiced and followed in order to keep up with development and society's progress; and reach the highest levels of creativity. This is what drew the researchers' attention to the need to combine more than one academic specialization in the faculty to produce an integrated applied work. Creative exchange of two integrating academic disciplines have been combined together (Fashion design and hanging textile printing design) to achieve an integrated practical approach represented in a fashion show titled by "Mannequin of life". It is joint collaborative work based on dialogue between students and academic staff to present a tremendous potential for innovative art making and paying attention to the importance of inclusiveness, solidarity, and forming a work team despite its many specialties but they have a common aim and interface which is the application of sustainable thinking in the design of show items and how to appreciate the concept of "old is gold" for students and society.

This approach requires the necessity of understanding and assimilating all show parts and establishing a design structure to integrate all items with each other in coherent and homogeneous form. Consequently, the student's design awareness, skill and knowledge will be developed as essential factors in the formation of designer's thought which determine the

features of designer's artistic style in the executed designs whether in the field of fashion design or the field of hanging textiles printing design. Sustainability concept could be represented in more than one discipline and in various forms. Fashion shows are one of the approaches that are strongly conceptualized by the process of garments design up to stage and backdrops design that are characterized by great versatility with diverse intellectual and artistic trends which can emphasize the concept of "sustainability".

Recommendations:

1. The necessity of redirection of designers' attention to the importance of interdisciplinary cooperation in development of creative thinking skills and promotion of joint collaboration thought.
2. The necessity of applying sustainable thinking in design as an approach in the textiles field to innovate products compatible with recent developments and requirements of the era.

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