

Establishing Design Standards for Teenage Girls' Evening Wear Inspired by Ebru Art and Origami Aesthetics Using Artificial Intelligence Applications

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Abstract:

Fashion designers seek to create distinctive occasion wear designs for teenage girls that meet their needs within an aesthetic framework aligned with the characteristics of their age group. Accordingly, the research aimed to Establish design standards for teenage girls' evening wear, Design evening wear for teenage girls inspired by Ebru art and Origami aesthetics using artificial intelligence (AI) applications, Determine the acceptance rate among specialists and consumers for these AI-generated Ebru and Origami-inspired designs. The research followed the descriptive analytical approach with implementation, as deemed suitable for achieving its objectives. The results concluded that (15) designs were created using the "ChatGPT" platform, drawing inspiration from Ebru and Origami arts, Design (10) ranked first in cumulative evaluation, receiving the highest ratings from both research sample groups, confirming its success in achieving functional-aesthetic balance, Design (6) followed, showing consistent appreciation from specialists and consumers, indicating integrated design elements, Design (15) was most favored by teenagers despite lower specialist ratings, highlighting the importance of understanding the target group's taste preferences and psychological factors, Design (1) ranked highly among specialists, Design (11) showed high consumer acceptance. These results confirm that the most successful designs achieved positive alignment between technical quality standards and target audience preferences. This reinforces the importance of integrating aesthetic-artistic foundations with the psychological-behavioral tendencies of the age group when developing innovative fashion lines that combine heritage arts with modern technology.

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References:

- 1- Bukhari, Asmaa Abdel Rahim. (2025). Manufacturing Occasional Clothing for Late Adolescent Girls by Recycling Ready-Made Garment Manufacturing Waste. Journal of Qualitative Education Studies and Research, Volume (11), Issue (2), Zagazig University.
- 2- Abdel Majeed, Asmaa Mohamed. (2021). The Effectiveness of Digital Design Thinking and the Development of Digital Printing Technology for Textiles. Journal of Heritage and Design, Volume (1), Issue (5), Arab Society for Islamic Civilization and Arts.
- 3- Ismail, Asmahan Mohamed. (2011). Different Techniques of Needlework and the Possibility of Using Them to Enhance the Aesthetic Aspects of Women's Homewear. Journal of Science and Arts - Studies and Research, Volume (23), Issue (1), Helwan University.
- 4- Abdel Karim, Ashgan Abdel Fattah; and Nasr, Mona Mohamed. (2020). The Aesthetics of Ebroidery Art in Fashion Design. Journal of Architecture, Arts and Humanities, Volume (5), Issue (1), Arab Society for Islamic Civilization and Arts.
- 5- Ibrahim, Ashraf Hussein; Qasim, Umaina Ibrahim; and Qasim, Reham Mohamed. (2018). Origami Thought Influenced by Modern Organic Theory, Journal of Architecture, Arts, and Humanities, Volume (3), Issue (11), Arab Society for Islamic Civilization and Arts.
- 6- Abu Sharif, Amal Mahrous. (2017). The Aesthetic Dimensions of Ebru Art as an Introduction to Creativity in Contemporary Egyptian Photography, Scientific Journal of the Faculty of Specific Education, Volume (4), Issue (10), Menoufia University.
- 7- Mustafa, Jihan Fahmy; and Al-Ghamdi, Lulwa Gharmallah. (2024). The Effectiveness of Artificial Intelligence Applications in Designing Children's Fashion Suitable for Industrial Production, Scientific Journal of the Faculty of Specific Education, Volume (11), Issue (37), Menoufia

-
- University.
- 8- Heikal, Rania Hosni; and Abu Al-Saud, Iman Raafat; and Hashish, Amani Mahmoud. (2021). Utilizing the Art of Ebroidery to Enrich Clothing Accessories, *Journal of Research in Specific Education*, Volume (7), Issue (32), Minya University.
 - 9- Mahmoud, Rabab Mohamed (2020). The Aesthetics of Ebroidery Art and Its Use in Decorative Design, *Journal of South-South Dialogue*, Volume (3), Issue (8), Assiut University.
 - 10- Rabah, Ziad Odeh; and Matroud, Samar Ziara (2018). Employing the Features of Sumerian Civilization in Women's Evening Wear Designs, *International Design Journal*, Volume (8), Issue (4), Scientific Society of Designers.
 - 11- Mohamed, Sahar Harby; and El-Sayed, Hala Soliman (2018). The Effect of Some Machine-Embroidered Quilting Methods on the Appearance of Artificial Leather, *International Design Journal*, Volume (8), Issue (4), Scientific Society of Designers.
 - 12- Qandeel, Samira Ahmed; Rehan, El-Husseini Ragab; Amer, Nadia Abdel Moneim; and Abdel Rahim, Wedad Fathy. (2017). The Relationship Between Socialization Style and Student Responsibility in Adolescence, *Journal of Agricultural Economics and Social Sciences*, Volume (8), Issue (4), Alexandria University.
 - 13- Sobhi, Sonia Khamis; Qubaisi, Mona Mohamed; and Bibars, Ahmed Fathi. (2024). Employing Folklore Motifs and Materials to Inspire Egyptian Women's Occasional Wear, *International Arab Journal of Art and Digital Design*, Volume (3), Issue (2), Arab Knowledge Management Foundation.
 - 14- Hegazy, Suzan El-Sayed; and Madin, Fatima El-Saeed. (2020). A New Vision for the Art of Ebrou (Marbling) to Enrich the Aesthetic Values of Children's Clothing and Accessories to Serve Small Projects, *Journal of Research in the Fields of Specific Education*, Volume (6), Issue (29), Minya University.
 - 15- El-Demerdash, Douha Mustafa; Abdel-Sheikh, Ahmed Mahmoud; El-Barbary, Ahmed Fahim; and Morsi, Omnia El-Sayed. (2022). Utilizing the Art of Ebru and Khayamiya to Enrich the Aesthetic Values of Clothing Design Using the Mannequin Technique, *Journal of Heritage and Design*, Volume (2), Issue (9), Arab Society for Islamic Civilization and Arts.
 - 16- Afifi, Ghada Shaker. (2019). Utilizing the Aesthetics of Arabic Calligraphy to Enrich Youth T-Shirts Printed with Typography, *Journal of Architecture, Arts, and Humanities*, Volume (4), Issue (15), Arab Society for Islamic Civilization and Arts.
 - 17- Al-Saikhan, Fatima Mansour. (2021). Innovating Clothing Designs to Meet the Needs of Adolescent Girls with Down Syndrome. Master's Thesis, College of Design, Qassim University.
 - 18- Al-Sheikh, Karama Thabet; Suleiman, Umama Ahmed; and Al-Maghmisi, Samah Mansour. (2017). The Effectiveness of an Educational Unit in Men's Fashion Design for Female Students in the Department of Clothing and Textiles at King Abdulaziz University, *Scientific Journal of Specific Education Sciences*, Issue (5), Tanta University.
 - 19- Habib, Muhammad Eid; Ahmed, Abeer Fathy (2024). The Interrelationship between Origami and Contemporary Graphic Techniques, *Journal of Arts and Architecture for Modern Studies*, Vol. (5), No. (10), Helwan University.
 - 20- Al-Sawy, Nancy Abdel-Maboud (2015). Innovating Designs for Women's Evening Wear Inspired by Natural Flowers. *Alexandria Journal for Scientific Exchange*, Vol. (36), No. (3), Alexandria University.
 - 21- Moamen, Nagwa Shukry; and Abdel-Ghaffar, Soha Ahmed (2009). Sculpting on a Mannequin, *Dar Al-Fikr Al-Arabi*, Cairo.
 - 22- Moamen, Nagwa Shukry; and Abed, Khaled Mustafa (2015). The Impact of Using Business Incubator Standards on the Production of Women's Occasional Wear Using Individual and Industrial Styles. The Fourth Scientific Conference of the Faculty of Home Economics, entitled "Activating the Role of Home Economics in Citizenship and Community Service," Faculty of Home Economics, Helwan University.
 - 23- Moamen, Nagwa Shukry; and Abed, Khaled Mustafa Al-Zahid, Muhammad. (2018). Manufacturing Occasional Clothing Using Hand-Woven Natural Fabrics, *Journal of Home Economics*, Volume (28), Issue (4), Menoufia University.
 - 24- Al-Ajami, Nahla Abdel-Ghani; Ragab, Radwa Mustafa; Al-Ilmi, Hala Mustafa; and Al-Bishbishi, Asmaa Wahba. (2023). Utilizing the Visual Values of the Art of Media Combination in Creating Occasional Clothing for Girls, *Scientific Journal of the Faculty of Specific Education*, Volume (2023), Issue (7), Damietta University.
 - 25- Hamada, Heba Mohamed. (2021). Inspiration from the Art of Smoking to Design Women's Evening

Wear on Mannequins. The Egyptian Journal of Home Economics, Volume (37), Issue (1), Egyptian Society of Home Economics.

- 26- Al-Jasser, Haifa Abdullah. (2022). Setting Technical Specifications for Designing Women's Occasion Wear in Light of Customs and Traditions in the Kingdom of Saudi Arabia. PhD Thesis, College of Design, Qassim University.
- 27- Hendrawan, A. (2025). The Development of Surface Textile Design Techniques Based on the Use of Easy-to-access Materials and Tools. Borneo International Journal eISSN 2636-9826, 8(1), 21-30.
- 28- Klocke, P., & Howell, L. (2025). Shapeshifting origami material shrinks when twisted.
- 29- Ramadan, M. (2022). Origami art and its effect on the creative process enriching the design of glass sculpture for architecture. Journal of Architecture, Arts and Humanities Sciences, 36. (7)
- 30- Shengh, F. (2009). "Design Exploring the Elements & Principles, Department of Art History, Nottingham University, London.
- 31- Wang, C., Yang, C., Li, J., & Zhu, M. (2022). Research on the creative application of origami performance techniques in clothing. Fibres & Textiles in Eastern Europe, 30(4).
- 32- Wei Y. (2022), "Origami and Kirigami for the Home", Paper Art Decorations, Gift Wrapping and Handmade Cards. Available at: <https://www.bloomsbury.com/us/origami-and-kirigami-for-the-home-9781789940824>
- 33- <https://www.shutterstock.com/image-illustration/earth-tone-colored-battal-ebru-somaki-2086718608>
- 34- <https://www.saatchiart.com/en-in/art/Painting-tarakli-ebru/661106/4563817/view>
- 35- <https://www.payesanat.com/hazerfen-turgut-hoca-koleksiyonu/cicekli-ebrular>
- 36- <https://www.ebrusitesi.com/galeri/dalgali.html>
- 37- <https://www.saatchiart.com/en-in/art/Painting-tarakli-ebru/661106/4563817/view>
- 38- <https://www.elifebru.com/ebru-sanati-el-yapimi-ipek-sal-vis-58-00elfebr-vis-58>
- 39- <https://www.kuveytturk.com.tr/ozel-bankacilik/blog/ustalarandsanatkarlar/ebru-ustasinin-dunyasinayolculuk>
- 40- <https://www.gulsefika.com/ebru>
- 41- <https://www.therealreal.com/products/women/clothing/dresses/leo-narducci-vintage-mini-dress-ezjhh>
- 42- <https://www.karmadori.com/products/larissa-gorgeous-kashmir-water-marbled-pure-silk-dress>
- 43- https://www.stylecheat.co/product/2078246?selp=spyfk37dXonLnLnJgeeBOvIDSo48jmpScJkIO-EhalWQnvZfl2IARHyNDE2KES4gY2OXcNfSLAUawznrluYEs_IDp1QcFZ9vYSyM8nUmLX..
- 44- <https://mag.lexus.co.uk/kirigami-7-amazing-artworks-made-entirely-from-paper>
- 45- <https://www.wikihow.com/Fold-an-Origami-Cube>
- 46- <https://spoon-tamago.com/hi-tech-3d-origami-by-jun-mitani/>
- 47- <https://www.artfulmaths.com/blog/getting-started-with-geometric-modular-origami>
- 48- <https://www.contemporist.com/10-fashion-designs-inspired-by-origami>
- 49- <https://www.thisiscolossal.com/2015/05/wet-fold-origami>
- 50- <https://www.bdifk.store/?ggcid=2941307>
- 51- <https://www.polypompholyx.com/2017/01/modularorigami>
- 52- <https://quiltforlovers.com/index.php/2019/08/23/folded-star>

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