

## Employing knitted fabrics characteristics in design and producing variable size children's clothing

**Dr. Hanaa Abdullah Abdulghani Alnawawy**

Lecturer in Clothing and Textile Department, Faculty of Home Economics, Al-Azhar University

[Hanaalnawawy@azhar.edu.eg](mailto:Hanaalnawawy@azhar.edu.eg)

**Dr. Amany Moustafa Ibrahim Khalaf**

Lecturer in Clothing and Textile Department, Faculty of Home Economics, Al-Azhar University

[Amanykhalaf@azhar.edu.eg](mailto:Amanykhalaf@azhar.edu.eg)

### Abstract:

Experts in this field are greatly interested in the stage of childhood as it is considered the start of way to the future. Today's children are tomorrow's youth , so it is important to give them due care and to meet their needs.

Clothes are considered to be one of the basic needs of the child. thus , it leads to the activation of the principle of selectivity while choosing the materials and designs suitable for the child's growth and development

(Asmaa AL Hassan 2007-115 )

The child grows rapidly at this stage so , it's necessary to consider the requirements of rapid growth while implementing and choosing his clothes so as to be used for along time .

without taking this matter into consideration ,the child will not be able to wear his clothes although they are still in a good shape .

It is also important to design clothes that can be used if the child grows and which is made using rubbery materials or with a line across the waist that has rubbery fabrics and wide connected sleeves.

The longitudinal growth also needs folds that can be removed when needed , and brackets with changeable buttons to change the length and size . ( wafaa EL Shafeey2002/90 )

Clothes manufacturing began to use knitting fabrics in most clothes products specially children clothes as it has many qualities such as comfort , rubbery , being warm and good looking as well as being easy to use and the possibility of using it for along time .

### Keywords:

**Synthetic, Knitwear, children's clothing Introduction and Research problem:-**

### • Problem of the research :

**The problems of the research can be summarized in the following questions :**

- (1) How is it possible to design clothes for children by the synthesis of knitting and woven fabrics that will be both beautiful and useful ?
- (2) how is it possible to design clothes for children by the synthesis of knitting and woven fabrics to meet the needs of the child's growth ?
- (3) how is it possible to design children clothes to be accepted by consumers and to be able to compete in markets ?

**Aims of the research:**

- 1- Designing clothes for children by the synthesis of knitting and woven fabrics to meet the needs of children .
- 2- Providing innovative solutions through the structures of knitting fabrics that will help to use the designs for a long time .
- 3- Identifying the experts opinions of the suggested designs of children using both knitting and woven fabrics .
- 4- Identifying the opinions of consumers especially mothers of the implemented designs for children by the synthesis of knitting and woven fabrics .
- 5- Implementing some of the suggested designs which got the highest percentage of the results .

**The importance of the research :**

- 1- It contributes to provide innovative solutions to enrich the design field and making children`s clothes .
- 2- Achieving an economic benefit by reaching innovative solutions that will allow to change the size of the design .
- 3- It offers job opportunities to new graduates as small and medium projects .

**Research hypothesis:**

- 1- there are differences of statistical significance among the suggested designs concerning the synthesis of knitting and woven fabrics of children`s clothes to use it for more than one size according to opinions of specialists .
- 2- there are differences of statistical significance among the implemented designs concerning the synthesis of knitting and woven fabrics of children`s clothes to use it for more than one size according to opinions of specialists .
- 3- there are differences of statistical significance among the suggested designs concerning the synthesis of knitting and woven fabrics of children`s clothes to use it for more than one size according to the opinions of consumers ( mothers ) .

Reseach Terms :

- **Synthesis**:-

Using different but suitable materials to be used together in one design to achieve functional and aesthetic side to enrich the design which is considered a technical process includes feelings mind and rhythm .Each material has a new position acquired by the whole work . ( Ali AL Madawy AL Melegy ) , ( Abu Saleh AL Alfy )

- **Knitting fabrics**:

These fabrics consists of a group of stitches that contains one or more threads .

- **Childhood**:

a term based on the first stage of man`s life that begins from birth to adulthood (Muhammed AL Qurtoby)

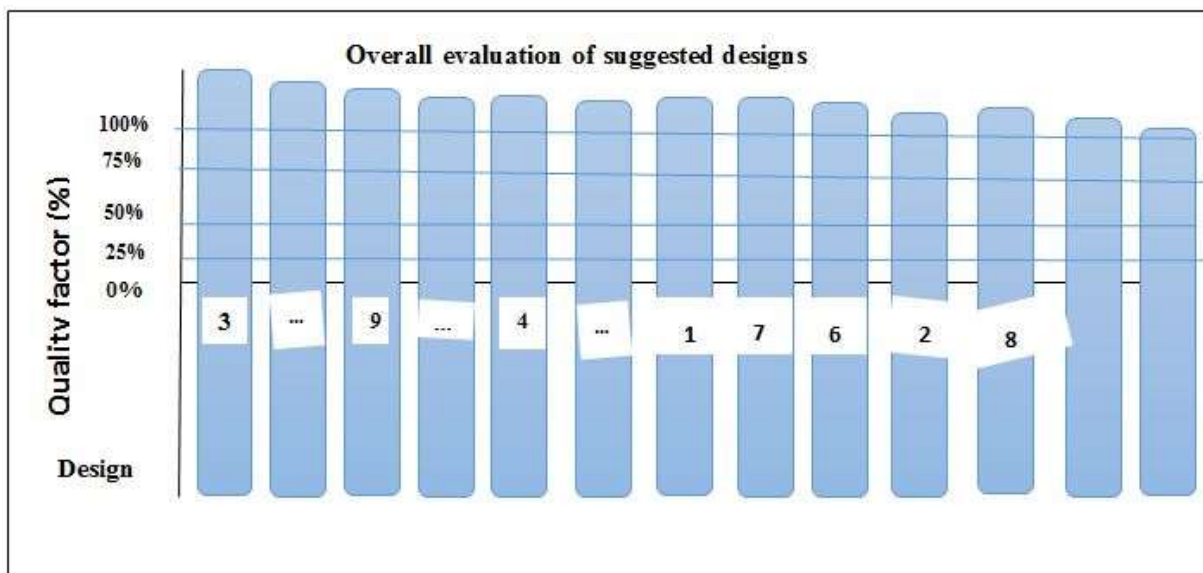
• **Research Results:**

We have made (12) suggested designs by the synthesis of knitting and woven fabrics and then showed them to experts in clothes and texture.

As a result: Evaluation of quality concerning the suggested designs were very high and showed that designs were suitable as shown in chart (1).

The medium average and quality factors of the experts opinions about the total evaluation of suggested designs.

Oder	Design level	Quality factor percentage %	Medium average	Designs
7	Appropriate	93.16	2.79	Design 1
10	Appropriate	89.74	2.69	Design 2
1	Appropriate	99.15	2.97	Design 3
3 repeated	Appropriate	95.73	2.87	Design 4
12	Appropriate	83.76	2.51	Design 5
9	Appropriate	92.31	2.77	Design 6
7 repeated	Appropriate	93.16	2.79	Design 7
11	Appropriate	88.89	2.67	Design 8
3	Appropriate	95.73	2.87	Design 9
3 repeated	Appropriate	95.73	2.87	Design 10
3 repeated	Appropriate	95.73	2.87	Design 11
2	Appropriate	98.29	2.95	Design 12



**Chart (1)** the medium average and quality factors of the suggested designs in descending order according to opinions of specialists on the overall evaluation.

(6) Designs were implemented which got the highest rate of evaluation ; the designs were shown to a group of judges and consumers (mothers).

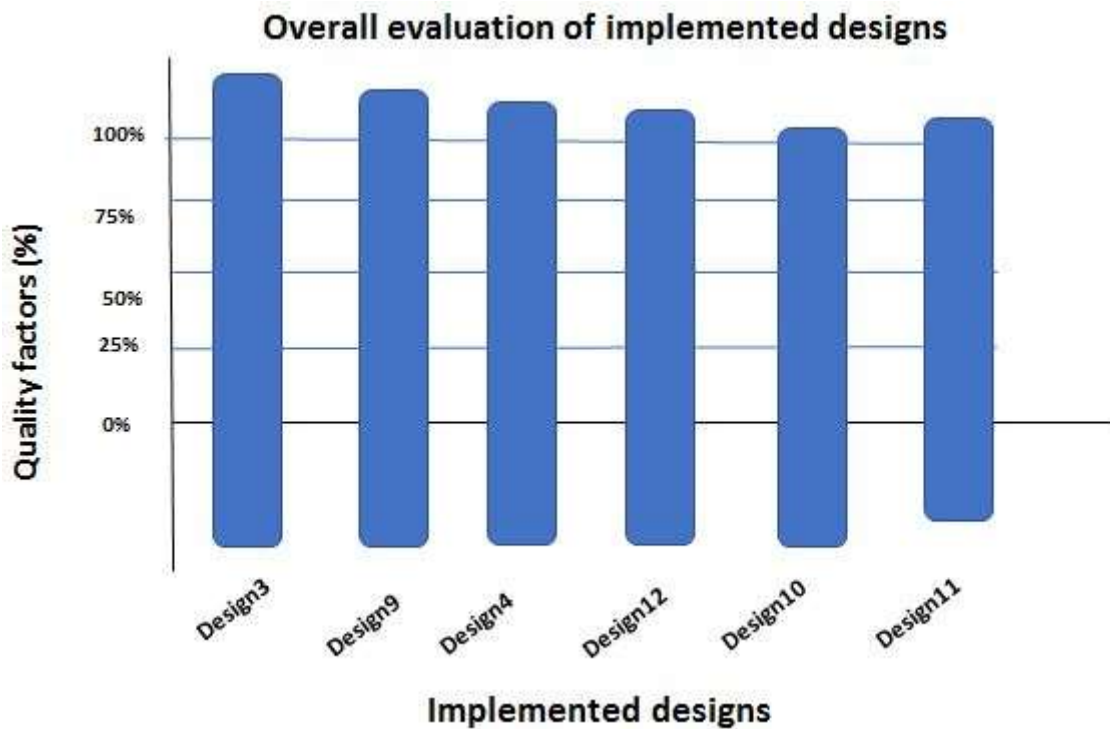
The results of the evaluation proved that the designs were suitable and the percentages were (80 , 95 – 100%).

The average values of these designs came between (2.43 – 3.0).

The implemented designs come in this order ; (design 3 , 9 , 4 , 10 , 11 , 12) as shown in the following chart.

**Chart (2)** average values and quality factors according to opinions of specialists on overall evaluations of implemented designs.

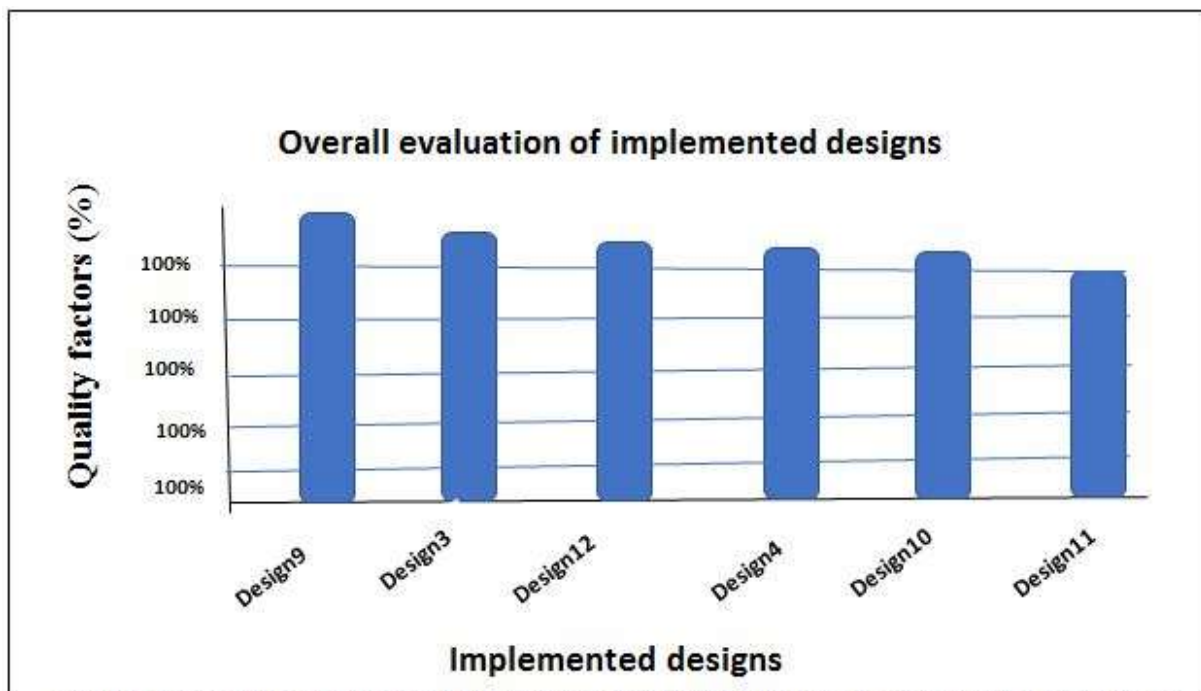
Oder	Design level	Quality factor cpercentage %	Medium average	Designs
1	Appropriate	100.00	3.00	Design 3
3	Appropriate	90.48	2.71	Design 4
2	Appropriate	92.86	2.79	Design 9
5	Appropriate	84.13	2.52	Design 10
6	Appropriate	80.95	2.42	Design 11
4	Appropriate	88.89	2.67	Design 12



**Chart ( 2 )** the medium average and quantity factors of the suggested designs in descending order according to opinions of specialists on the overall evaluations . as for consumers ; the designs ( 3 .4 .9 .10 .12 )were appropriate ; agreement factors ( 89.84% - 93.33% ) . the medium average ( 2.70 – 2.80 )

Design ( 11 ) was quiet appropriate. Agreement factors of this design reached ( 75.24 % ) . The medium average reached ( 2.26 ) . The order of the implemented designs according to opinions of consumers came as in design ( 9 . 3 .12 .4 . 10 .11) this is clearly shown in chart ( 3 )

Oder	Design level	Quality factor percentage %	Medium average	Designs
2	Oppropriate	93.33	2.80	Design 3
4	Oppropriate	91.43	2.74	Design 4
1	Oppropriate	93.65	2.81	Design 9
5	Oppropriate	89.84	2.70	Design 10
6	<b>Quite appropriate</b>	75.24	2.26	Design 11
3	Oppropriate	92.06	2.76	Design 12



**Chart ( 3 )**

Quality factors of implemented designs in descending order according to opinions of consumers on overall evaluation .

**The results:-**

1- there are statistical differences according to experts opinions on suggested designs concerning the synthesis of knitting and woven fabrics to make clothes for children to use it for more than one size the value of (f) is ( 4.26 ) at the level of (0.001) so there are differences among the suggested designs thus . the first hypothesis is achieved .

2- there are statistical differences according to experts opinions on the implemented designs about the synthesis of knitting and woven fabrics to make children clothes and use it for more than one size . the value of (f) is (16.04) at the level of (0.001) so there are differences among the implemented designs thus the second hypothesis is achieved .

3- there are statistical differences according to consumers opinions on the implemented designs concerning the synthesis of knitting and woven fabrics to make clothes for children and use it for more than one size .the value of (f) is (25.66) at the level of (0.001) , so there are differences among the implemented designs thus the third hypothesis is achieved .

### **The most important research references :**

- Abu Saleh AL Alf, Islamic Art , its origins , philosophy and schools – Third Edition – Dar EL Ma'arif – Cairo ( no data ) .

- **Asmaa Abdallah Al Hassan :-**

Techniques of synthesis –technical and useful uses in making clothes for children – Master Thesis – faculty of Home Economics and Art – Riyadh (2007)

- Abdel Moneim Sabri – Reda Saleh Sharaf – Glossary of Histological terms . printed in Germany . 1975

- Ali – AL Madawi AL Melegi – Samar Muhammed Al Agamy – Magda Abdel Wahab : the possibility of employing Arabic calligraphy to make art crafts by mixing between dough and raw materials – research journal

Quality education – Egypt 2015 .

- Muhammed Al Qurtuby–Egyptian Bookshob . part12 1964

- Wafaa Hassan Shafei :

Children clothes from birth to 12 years clothing needs – Dar Al Zahraa – Riyadh (2002) .

### **References:**

1. Al-Alfi, Abu Saleh: Islamic Art Origins of Philosophy and Schools, Third Edition, Dar Al-Maarif, Cairo, no date

2. Al-Jarhi, Samia Ahmed: Implementation of Children's Clothes (1), Cairo (2001).(

3. El-Jarbou', Maram Mohamed Abdel-Karim: Utilizing the Fine Arts of Fine-tuning Raw Materials for the Design and Implementation of Children's Clothes, Master Thesis, College of Design and Home Economics, Qassim University 2007.

4. Al-Alimi, Iman Abdullah: Recycling the Residues of Production of Ready Made Garments Factories and Using them to Create Argonom Designs for Children's Fashion, Unpublished Master Thesis, Faculty of Home Economics, Al-Azhar University, 2017

5. Al-Qurtubi, Muhammad: The Interpretation of Al-Qurtubi, Egyptian Book House, Part 12, 1964

6. Alqartabi, mhmd: tafsir alqurtabaa - dar al kutub al misriat - aljuz '12-1964m

7. El-Meligy, Ali El-Madawy, et al.: The possibility of using the Arabic calligraphy for the work of artworks in the synthesis between dough and ores.

8. Gado, Noha Mohamed Ibrahim: Study the basic requirements of school uniforms for children's clothes in the primary stage - Master of the Faculty of Applied Arts - Helwan University -2004

9. Khalaf, Amani Mustafa Ibrahim, Proposed Training Program for the Production of Coarse Knitting Clothes by Computer for Small Industries, Unpublished Master Thesis, Faculty of Home Economics, Menoufia University, 2008
10. Raafat, Bahaa El-Din, et al., Knitting Technology, Part I, First Edition, 1970, Memphis Printing House.
11. Sulaiman, Abdul Rahman Sayed: Growth Psychology, First Edition, Al-Rashed Library Riyadh, 2004
12. Shafei, Wafaa Hassan: Children's clothes from birth to 12 years of clothing and care needs, Dar Al-Zahra, Riyadh, 2002
13. Shawky, Alft, et al., Fashion in Children's Clothing Design, Cultural Encyclopedias Series, Syndicate of Applied Arts Designers.
14. Sabri, Abdel-Moneim et al., Glossary of Textile Terms, printed in Germany, 1975.
15. Abdullah Al-Hassan, Asma: Methods of Synthesis and its Artistic and Useful Uses in Children's Clothes, Master Thesis, Faculty of Home Economics and Art Education, Riyadh, 2007.
16. Osman, Suheir Mahmoud et al.: Designing children's clothes to keep pace with international fashion trends and print them in environmentally safe ways. International Design Magazine, October, 2018.
17. Aouf, Ghada Mahmoud Ibrahim: An Analytical Study on the Effect of Animation on Kindergarten Child, Positive and Negative. International Design Magazine, April, 2017
18. Mohamed, Heba Mohamed El Sayed: Studying the Possibility of Implementing Some Modern Techniques and Their Application to Children's Clothes Using Traditional Knitting Machines, Master Thesis, Faculty of Home Economics, Al-Azhar University, 2018.
19. Musa, Mina, et al.: Children's Clothing, Bustan Knowledge Library, Alexandria, 2005.
20. David J Spencer, Knitting Technology, Woodhead Publishing Limited, Cambridge England, third edition 2001.
21. Harry Wignall, Knitting, Pitman Publishing, 1964
22. Louise Aliddell, Clothes and youe appearance ,the good hear willcox company , inc, south Holland , 1998.