The Effectiveness of the Blended Learning Strategy for Draping on a Mannequin with Unique Stature (MUS)

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Abstract:

The study aimed to find out the extent to which blended learning is effective in providing students with the necessary information and practical skills to manufacture a mannequin mold with unique stature (MUS), the possibility to drape on it to execute evening and soiree dresses. The educational content applied to the research sample with a number of (30 students) from Department of Home Economic in the course (Outerwear design and execution) under the supervision of expert arbitrators specialized in textiles, clothing and technology of education. The results and statistical treatments proved the effectiveness of blended learning in providing each student with information and skills necessary to manufacture her own personalized mannequin and measuring that by applying the cognitive test (pre- and post-test), in addition to using a note card to record the development of students' skills. The study also demonstrated the high tendency of female students towards blended learning, its teaching aids and methods, its activities, how it is evaluated and its feedback.

Introduction:

Fashion designing using the technique of shaping on a mannequin is one of the richest and most powerful curricula because it contains information, concepts and practical skills that students must acquire in order to be able to implement some pieces of clothing, especially evening and soiree wear. Due to the invasion of the corona virus to all of the world, the necessity of the blended learning and its strategies has increased to most educational institutions. Many various studies have proven how effective can e-learning and technology be in the field of textile, fashion design, fashion and e-marketing. First study in textile (Shehard.A.,2020) was based on introducing students to the science of textiles because it is the beginning of the breakthrough in the field of fashion, this study demonstrated how active learning can be an effective strategy in eradicating students' illiteracy in the world of textiles through the application of creativity, critical thinking, literacy skills. Communication and teamwork, which show in the students' assessments and positive attitudes to learning. Study of (Charitopoulos.A&Others,2017,) proved the important role that blended learning plays in improving the learning process in general, in addition to professional training thanks to the flexibility and balanced approaches it offers. The aim of the study is to propose approaches that exploit the e-learning and the blended learning scenarios for Textile Engineering education programs, especially for multi-institutional ones. Educational challenges addressed were student engagement, student error/ failure handling, as well as collaborative learning promotion and support. Study of (Suliyanthini.D.,&Other.,2021) aimed to find out the impact of blended learning on student learning in the pattern grading lesson taught in the Textile Physics course. In this, Study participants learned in face-to-face and blended learning environments. The students were assessed before and after receiving each treatment. Study revealed that blended learning had been proven successful in improving student-learning outcomes by 28%, which was higher than the conventional method which was only 11%. Among the studies related to e-learning and blended learning there is study of (Yick.K-Lun& Others, 2019) which was applied to the first year of higher education as it is a very important academic year, which contributes greatly to the success of future academics. The results of the study revealed the interest of the first-year students in the fashion major in self-organized blended learning, taking into account the students, diverse educational backgrounds, previous educational experiences and their needs to increase their participation in online modules. In another study (Lee.Y.k., 2021) The researcher aimed to identify the factors that led to a successful implementation of e-learning classes as an alternative to face-to face classes in schools. This study analyzed and evaluated students' achievement process to see how self-motivated learning and interactive learning affected the process of learning and how can we create an efficient e-learning environment for fashion CAD education. The study (Zhao. L., Min.C., 2018) came with the advent of modern cognitive computing technologies. It is certain that a large-scale data set is able to reshape the fashion industry. Data-mining-based social network analysis is an important area of fashion information flow among fashion units. In the case of Paris Fashion week, three time periods were researches to monitor the formation and

mobilization of social media uses' discussions of the event. Initial textual data on social media and the most influential nodes were crawled, converted, calculated and visualized by Python and Gephi. About the study (Zhao.L.,Kim.K.,2021) The covid-19 pandemic period represents a situation with almost no prior research on how industry can recover from such a crisis. This study aims to present new possibilities with C&T value chain by evaluating specific industry responses. This study develops an understanding to the connections among various value chain segments in C&T that have been affected due to the covid-19 pandemic. The results of the study provide some considerations for C&T practitioners during times of crisis, such as the covid-19 outbreak.

Study of (Omovie.Z.T.,Tyler.DJ,2022) talked about the impact of covid-19 on shopping behavior preferences. The study compared experienced versus inexperienced mobile consumer's shopping experience on smart phones. This comparison showed significant differences in regards to time spent on shopping, used elements of the website and problem areas encountered. The results of this research can be used in understanding the behavior differences between current and potential customers, and in developing personalized shopping experiences on smart phones. On the study (Alalawneh.A.A.F.&others,2021) the researcher aims to analyze the impact of using leading social media platforms (SMPS) on the innovation performance of the fashion SMEs in Jordan. The result highlight the positive significant impact of SMPs' usage on the innovation performance. This research has confirmed to take advantage of the SMPs' usage in the context of developing fashion SMEs.

As women in general, and home economics students in particular, differ among us in terms of physical dimensions and measurements, my aim of this study was to provide the opportunity for each student to learn how to make her own mannequin expressing her own body style and thus the possibility of forming and draping on that mannequin. Study (Buhu. A, Buhu. L, 2021) In recent years, Education management systems or learning management systems (LMS) have developed rapidly, leading to wide use of e-learning systems. This was also reflected in the teaching and learning resources. It changed the roles of the participants in the learning process, Putting new challenges in front of the teachers. They had to learn new ways, select new tools and acquire new skills to achieve their educational goals and meet the requirements of students and the business environments as much as possible. This article presents an analysis of how to design a course for a

technical discipline using the facilities provided by a model platform, which provides a series of course formats, Which has become a necessity as a result of the rapid and intensive use of learning platforms imposed on us by Covid-19.

In study (Solangil.W.H, & Others,2015)

The researcher made modern clothes, following a new modern method, which he called one piece of clothing with four panels, using new techniques of wrapping without making any kind of patterns that are sewn by the overlock machine. After he chooses a mannequin and a fashion pattern to make fashion clothes, the first and basic process begins with gluing the line where the mannequin must be divided into two parts, (i.e. the front and back body) and then the front side of the body divided into two parts on the left front and the right front, similarly The back side of the body is divided into two parts (eg. left rear and right rear side). Then he makes a new design using the technology he developed. This garment can be used in any party wear and the results show that the fashion garments produced by draping techniques look very good in appearing natural on the body and also satisfied in producing garments that are suitable as per the body. In this study (Maqsood.E.,&Others.2019) three woven fabrics, chiffon, taffeta and velvet were used to create twists, draping and pleats on mannequin using draping techniques. Twenty-seven finished samples were draped, videotaped and evaluated for their appropriate use of materials and aesthetic appeal by participants. The results revealed that the three fabrics are equal in terms of their ability to produce desirable designs, but with the increasing level of complexity in the techniques used, some difficulties began to appear in the use of these fabrics, for example, such as the inadequacy of chiffon for making folds and pleats, while the taffeta achieved a better result as it is a more solid fabric. This study has demonstrated that choosing fabrics to achieve desirable draping designs depending on a combination of factors such as drape coefficient, fabric thickness as well as the complexity of draping technique.

which adds a new importance to this study in making use of the available low-cost materials and making a high-quality, inexpensive mannequin mold that expresses Personal measurements allowing us to solve a big problem which is forcing many students to modify the measurements of the standard mannequin to suit their measurements which leads to a great consumption of time, effort and materials. The study also aimed to prove the effectiveness of blended education and e-learning and the ability to achieve the desired results, especially with the restrictions imposed on us by the Corona virus.

Research Questions:

1- How effective is blended learning in teaching students how to make a (MUS)?
2- Is it possible of produce (MUS) molds individually?
3- Is it Possible to implement some clothing pieces (projects) using the draping style?

Materials, Tools and methods:

*Questionnaires:

1- A note card to record the skill performance of the students (only for arbitrators).
2- A questionnaire to judge the cognitive test.
3- A questionnaire to judge the program applied to the students through the blended education strategy.
4- A questionnaire to judge the students' tendency towards the blended education applied through the telegram app.
5- A questionnaire to judge manufactured mannequin molds and clothes executed by students.

*Tools and materials needed to manufacture the (MUS):

Measuring tape, scissors, adhesive tape preferably metallic adhesive because it contains texture which gives it a bit of elasticity (especially when wrapping it around the curved areas of the body, the transparent wide adhesive can be used when there is no metallic adhesive), food plastic wrap, cotton top or a corsage tailored to your size, synthetic cotton for filling, wooden or metal stand, tape.

N0TE: We may not need all aforementioned materials; it depends on the technique used in the implementation of (MUS).

Procedural steps for the study:

The study was applied to a number of (30) female students from the fourth year, Department of Home Economics, in the subject of designing and implementing outerwear. The study used the blended learning strategy by meeting the students face-to-face and electronically using the Telegram app and including some educational videos of the trainer, as well as some websites, at a rate of 60-40%, respectively.

At the outset, the characteristics of the target group for the study of this program are determined, and the conditions that must be met by the students of the study are:

- Each student has an account on the Telegram app.
- Students have never studied this subject before (MUS) and it never been taught in Department of home economics before.

Mannequins with special stature and implement their own projects.

The researcher made an educational content that includes five topics, which aim to provide the student with the information and skills she needs to make her own (**MUS**), and these topics are:

First topic: Introducing the mannequin, its history, its types and the materials used in its manufacture.

Second topic: Find the measurements needed to make (MUS).

Third topic: tools, materials needed and how to manufacture (MUS) molds.

Fourth topic: Matching and modifying the mannequin then shape evening clothes on it.

Fifth topic: Some basic lessons for shaping evening dresses on the mannequin.

Each of the previous topics contains the following elements:

First: Determine the objectives of the educational unit "face to face".

As well as defining the skill goals to be achieved by teaching the unit, and then judging them by specialists in the fields of clothing, textile and educational technology, and it has been approved. In addition to the emotional goals, which are no less important than the cognitive and skill goals

Second: Defining the educational content elements: "e-learning"

The content was determined in light of the unit's objectives to be achieved and the time available for its implementation. It was organized in a logical sequence from easy to difficult and simple to complex, gradual in depth and breadth while progressing in the study in order to achieve integration between the knowledge framework and the skill framework.

The content of the unit was presented to a group of professors specialized in the fields of clothing, textiles and the educational field to verify the validity of the unit's content for application from a scientific point of view, and the arbitrators agreed on the validity of the unit's content.

Third: Teaching aids: "face to face and e-learning"

The process of planning educational units includes the pre-preparation of the educational tools and aids necessary to enrich the educational situation, as they are selected in light of the objectives to be achieved, and in the light of the interaction that will take place between them and the teaching methods, to provide new educational means and tools for thinking, understanding and analysis. The electronic educational aids are many and varied and we have used a lot of them in this study such as the Internet, the mobile phone, as well as some You Tube videos and posts from Pinterest which were all displayed on the Telegram app.

Fourth: educational activities: "e-learning"

Educational activities are interactions between the teacher and the learner via the Internet in general which accessed through a device, such as a tablet or

phone, on a website or through an application.

Fifth: Teaching Methods: "face to face and e-learning"

Teaching was used both in the two methods of discussion by presenting theoretical concepts and information as well as a practical statement by meeting the students face to face in addition to various videos related to the achievement of each of the unit's educational goals through the (Telegram) app in addition to following up on the students when building and completing the mannequin and also forming on it, directing them, modifying and correcting their work.

Sixth: evaluation process: "face to face"

- An evaluation before and after to measure the cognitive levels of the students.
- Pre and post evaluation using the note card to measure the skill performance of the students.
- Evaluation of the (MUS) molds, and the clothing pieces implemented by the students.

After completing all the previous steps come the Procedures of manufacturing (MUS) molds and how to adjust sizes in case of modification or errors (Appendix 1 show how the mannequins were made and some of students work samples).

In this procedure, the researcher made some adjustments with the students in order to manufacture mannequin molds that match their longitudinal and transverse measurements.

Lines: Transverse

1- Measurements of neck stiffness, increase or decrease.
2- The shoulder lines do not match, either by increasing or decreasing.
3- Inconsistency in the measurement of chest rotation, either by increase or decrease.
4- Not matching the measurement of the average rotation by increase or decrease.
5- Mismatch of the measurement of the rotation of the buttocks with increase or decrease.

longitudinal lines:

1- The length of the chest penny line, whether it is increased or decreased.
2- The length of the back, by increasing or decreasing.
3- The length of the flank line, whether it is increased or decreased.
4- The width of the back is increased and decreased

Some slides that show how to build a special a mannequin with special stature through the Power point program and some of its videos and introduce them to the students via Telegram App
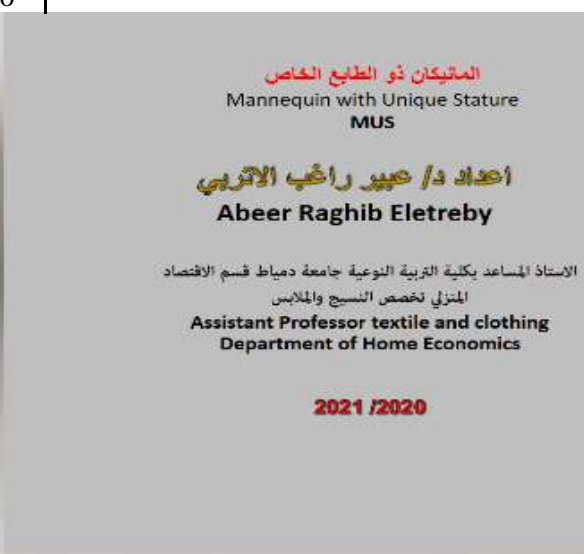
2- The steps:

Wearing a cotton top that reaches around to mid things or as the desired length, it can be replaced with a corsage is often made by the student after making her own paper pattern just to make sure its measurements are correct and this corsage not used again.

The body is wrapped from the top with food plastic wrap while avoiding the arms and wrapping continues passing around the neck until we reach the desired length.

We use aduct tape (preferably the type that contains woven threads to easily take the lines and curves of the body) and the transparent adhesive tape to wrap the body in a certain way and specific direction. This step determines the quality of the mannequin mold in the end and is implementing as follows.

Warp under the chest tightly, then move with the adhesive tape to the front chest area, take the tape from one shoulder and extend it to the bottom of the opposite breast, then roll it back to define the chest area, and we repeat this step to get three layers of tape, then we repeat the same process on the other side of the chest, then we wrap the tape around the neck, shoulders and upper arms lightly, while maintaining the shape of the chest.

The first type: fiber or rubber mannequin
The second type: foam mannequin
The third type: wooden mannequin
TheFourth type: fixed mannequin or haute couture mannequin The Fifth
type: a mannequin with variable sizes or a singer mannequin
 The sixth type is a three-dimensional mannequin

1

2

3

4

5

9-1 The entire mold is covered with a Lycra elastic fabric, and it is sewn from the outside from the shoulder, sides and base lines. The neck is cleaned, the excess is cut, and it is turned over again to get clean internal stitches.

9-2 A very thin satin ribbon of less than 0.5 cm is wrapped around the aforementioned physical dimensions

7-2 The half – back line is closed with adhesive again and filled with sponge, preferably industrial due to its light weight.

7-3 Ensure that all mannequin sizes match your personal measurements.

2- The shoulder lines do not match, increase or decrease.
2-1 increase
2-1-1 The shoulder line is cut from its end to adjust the measurement to the desired length
2-1-2 There may be a modification of the neckline that results in a reduction in the shoulder line measurement
2-2 decrease
2-2-1 The length is increased from the end of the shoulder line with the adhesive tape to reach the required length.
2-2-2 It is possible to increase the length of the shoulder line with this procedure when there is a decrease in the length of the proportion line by adding a piece of sponge or piece of fiber to the shoulder line and adjusting the size.

3- Inconsistency in the measurement of chest rotation, either by increasing or decreasing.
3-1 increase
3-1-1 Dilute the filling to reach the required size.

4-2-2 A layer of sponge or synthetic fiber is placed on the entire center area from the front, back and sides.
4-2-3 A layer of sponge or synthetic fiber is placed on the abdomen area.
NB: Choosing the appropriate previous procedure depends on the shape of your body pattern. And fix the previous stages with adhesive tape or plastic food wrap, or leave it as it is.
5- Inconsistency in the measurement of the rotation of the buttocks, by increase or decrease
5-1 increase
5-1-1 Eliminate some padding to reduce the measurement of buttock rotation.
5-1-2 The tension with the adhesive tape reduces the measurement to the required size.

Statistical methods used:
In this study, the researcher used the statistical package for social sciences (SPSS 22) in conducting statistical analyzes.
The methods used in the study are:
1-Validity and reliability of the study tools:
1-1 The validity of the test is intended to measure the test questions, phrases used as metrics, the observation card, and what it was designed to measure. The researcher verified the validity of the test in two ways:
1-2 The validity of the arbitrators: the researcher presented the test to a group of arbitrators, consisting of (10) specialists in the fields of clothing, textile and educational studies.
2- Measures of statistical validity and reliability which was applied on the statistical packages program (SPSS 22) on each of:
2-1 A note card to record the skill performance of the students.
2-2 It has been achieved by using the Krumbach alpha coefficient to calculate the internal validity of the three arbitrators' degrees that they have given for skills and the observation card as a whole. This can be seen from the following table (Table 1):

(Table 1)

The skills	level of significance	Internal link
1-Choose the materials	0.01	.631**

2-Keep plastic wrapped around the body	0.01	.676**
3-The method of wrapping the adhesive tape on top of the corsage	0.01	.562**
4-The way to wrap the adhesive tape under the corsage	0.01	.539**
5-Cut the corsage from the middle behind keeping the corsage straight	0.01	.660**
6-Choosing the right filler for the mannequin	0.01	.735**
7- Follow the correct filling method for the mannequin mold	0.01	.588**
8-There are adjustments to the measurements of the (MUS)	0.01	.557**
9-Correctly install the finishing cloth on the mannequin mold from the front	0.01	.629**
10-Correctly install the finishing cloth on the mannequin mold from the back	0.01	658**
11-Sew any parts of the mannequin that need stitches	0.01	.657**
12-Adding indicative strips to the longitudinal and transverse mannequin lines	0.01	.534**
13-Choosing the appropriate material to finish the open parts of the mannequin.	0.01	.400*
14-Technically ending the neck.	0.01	.615**
15-Technically ending the armpit area.	0.01	.395*
16-Technically ending the mannequin base	0.01	.741**
17-Choose the appropriate carrier material and recycle some materials if possible	0.01	.683**
18- Adjust the length of the mannequin to match the desired length.	0.01	.400*

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

Table (1) shows the internal correlation coefficient, which ranges from (0.395-0.741), which is an acceptable percentage at a significance level of 0.01

2-2 Validity and reliability of the cognitive test:

The cognitive test contained many questions forms like mark true or false or complete the points with a number of 15 For each questions form (table2,3)

Table (2) shows the validity and reliability of (first group) of the cognitive test questions

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1	26.1000	29.211	.339	.793
Q2	26.2000	29.289	.284	.797
Q3	26.2000	27.733	.492	.782
Q4	26.2000	28.178	.431	.786
Q5	26.3000	31.344	.050	.811
Q6	26.1000	29.878	.388	.791
Q7	26.2000	29.511	.255	.800
Q8	26.4000	32.044	-.052	.819
Q9	26.4000	28.044	.387	.790
Q10	26.1000	25.878	.669	.766
Q11	26.2000	24.622	.772	.754
Q12	26.2000	26.844	.616	.772
Q13	26.2000	27.733	.492	.782
Q14	26.3000	27.567	.472	.783
Q15	26.3000	27.567	.472	.783

Table (3) shows the validity and reliability of (the second group) of the cognitive test questions

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q16	24.6000	28.711	.302	.790
Q17	24.6000	27.156	.411	.783
Q18	24.6000	25.600	.618	.765
Q19	24.6000	26.044	.558	.770
Q20	24.6000	27.378	.510	.776
Q21	24.5000	27.389	.580	.773
Q22	24.6000	27.378	.382	.785
Q23	24.8000	30.622	.006	.811

Q24	24.8000	26.622	.439	.780
Q25	24.6000	25.378	.649	.762
Q26	24.7000	24.456	.740	.753
Q27	24.7000	26.678	.577	.771
Q28	24.6000	29.156	.234	.795
Q29	24.7000	29.344	.185	.798
Q30	24.6000	31.156	-.071	.820

It is clear from the previous table that the validity and reliability of the test were (0.8) for the first group, (0.795) for the second group, which are acceptable rates for the test.

3- The arbitrators judged the program applied to the students through blended education using percentages, as shown in Table (4)

4- Observation card before and after to test the presence of the skills of making a mannequin mold with unique stature for the students (table 5):

It is clear from Table (4) the possibility of applying the scientific content with the integrated electronic science (using the Telegram app), where the percentages ranged from (70-100%).

Table (4)

Serial	Sentences	Percentage %
Scientific material and achieving the desired goals	1- Accuracy of scientific content for the safety of the educational process.	80
	2- The logical sequence in presenting the lessons of the scientific subject.	90
	3- Formulating clear goals.	70
	4- Formulating measurable and evaluable goals	70
Technical design and scientific content presentation	5- The prepared screens are attractive and interesting for the student.	70
	6-The colors are harmonious and not distracting.	70
	7-The included videos express the scientific material.	80
	8-The language associated with the videos is easy and can be understood if it is not Arabic.	80
	9- Internet sites are available and can be browsed at the time of applying the scientific article.	80
	10-The sound associated with the videos is clear and understandable.	70
Use the telegram app	11-Telegram is easy to use	100
	12- A high-capacity telegram app to easily insert photos and videos.	90
	13- The Telegram app allows the creation of large groups.	90
	14- The Telegram app is effective and interactive with the trainer	90
	15-The Telegram app saves time and effort.	80
	16- The Telegram app allows students to interact with each other and express opinions and questions	80
	17-Telegram allows privacy.	100
	18- The Telegram app gives a great opportunity for evaluation and follow-up of students.	90
	19- Telegram allows feedback.	80
	20- The Telegram app provides convenience and the ability to communicate at any time and place.	100

Observation card before and after to test the presence of the skills of making a mannequin mold with unique stature for the students (table 5):

Table (5) Observation card before and after to test the presence of the skills

		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Significance	
									One-Sided p	Two-Sided p
skill1	Note Card Before - After	3.26667	.86834	.15854	3.59091	2.94242	20.605	29	<.001	<.001
skill2	Note Card Before - After	3.36667	.88992	.16248	3.69897	3.03437	20.721	29	<.001	<.001
skill3	Note Card Before - After	3.43333	.72793	.13290	3.70515	3.16152	25.834	29	<.001	<.001
skill4	Note Card Before - After	3.26667	1.01483	.18528	3.64561	2.88772	17.631	29	<.001	<.001

		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Significance	
									One-Sided p	Two-Sided p
skill5	Note Card Before - After	3.46667	.81931	.14958	3.77260	3.16073	23.175	29	<.001	<.001
skill6	Note Card Before - After	3.30000	1.11880	.20426	3.71777	2.88223	16.155	29	<.001	<.001
skill7	Note Card Before - After	3.16667	.83391	.15225	3.47805	2.85528	20.799	29	<.001	<.001
skill8	Note Card Before - After	3.23333	.81720	.14920	3.53848	2.92819	21.671	29	<.001	<.001
skill9	Note Card Before - After	3.43333	.81720	.14920	3.73848	3.12819	23.012	29	<.001	<.001
skill10	Note Card Before - After	3.56667	.97143	.17736	3.92940	3.20393	20.110	29	<.001	<.001
skill11	Note Card Before - After	3.46667	.86037	.15708	3.78793	3.14540	22.069	29	<.001	<.001
skill12	Note Card Before - After	3.60000	.67466	.12318	3.85192	3.34808	29.226	29	<.001	<.001
skill13	Note Card Before - After	3.76667	.50401	.09202	3.95487	3.57847	40.934	29	<.001	<.001
skill14	Note Card Before - After	3.46667	1.00801	.18404	3.84307	3.09027	18.837	29	<.001	<.001
skill15	Note Card Before -After	3.56667	.85836	.15671	3.88718	3.24615	22.759	29	<.001	<.001
skill16	Note Card Before -After	3.40000	.89443	.16330	3.73398	3.06602	20.821	29	<.001	<.001
skill17	Note Card Before -After	3.13333	1.16658	.21299	3.56894	2.69772	14.711	29	<.001	<.001
skill18	Note Card Before - After	3.80000	.48423	.08841	3.98082	3.61918	42.982	29	<.001	<.001

Table (5) shows the T-scores to indicate the differences between the mean scores of the students before applying the content in blended learning and after applying the content. The differences came in favor of the post application, where the T values ranged (16.15-42.98) and its' averages ranged from (0.08-0.2) And the standard deviation values ranged (0.48-1.16), which indicates that there are statistically significant differences.
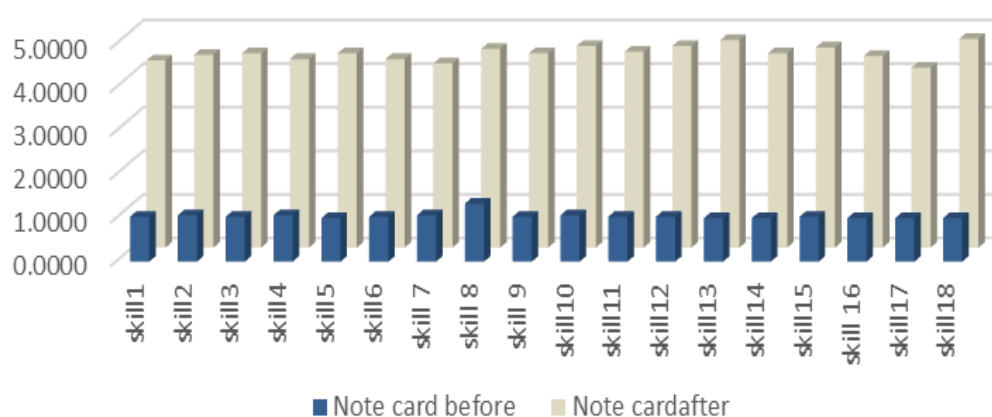
5- Cognitive test before and after.

To measure the students' information and concepts related to the educational content of how to manufacture a mannequin mold with a unique stature **(MUS)** and the possibility of forming on it. The test was applied before and after displaying the content.

Table (6) Cognitive test before and after displaying the educational content

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Significance	
					Lower	Upper			One-Sided p	Two-Sided p
Q1	Cognitive test before- after.			.04632	.83860	1.02807				
Q2	Cognitive test before- after.	.90000	.30513	.05571	.78606	1.01394			<.001	<.001
Q3	Cognitive test before- after.	.83333	.37905	.06920	.69179	.97487	12.042	29	<.001	<.001
Q4	Cognitive test before- after.	.90000	.30513	.05571	.78606	1.01394	16.155	29	<.001	<.001
Q5	Cognitive test before- after.	.80000	.40684	.07428	.64808	.95192	10.770	29	<.001	<.001

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Significance	
					Lower	Upper			One-Sided p	Two-Sided p
Q6	Cognitive test before- after.	.93333	.25371	.04632	.83860	1.02807	20.149	29	<.001	<.001
Q7	Cognitive test before- after.	.96667	.18257	.03333	.89849	1.03484	29.000	29	<.001	<.001
Q8	Cognitive test before- after.	.93333	.25371	.04632	.83860	1.02807	20.149	29	<.001	<.001
Q9	Cognitive test before- after.	.96667	.18257	.03333	.89849	1.03484	29.000	29	<.001	<.001
Q10	Cognitive test before- after.	.90000	.30513	.05571	.78606	1.01394	16.155	29	<.001	<.001
Q11	Cognitive test before- after.	.90000	.30513	.05571	.78606	1.01394	16.155	29	<.001	<.001
Q12	Cognitive test before- after.	.93333	.25371	.04632	.83860	1.02807	20.149	29	<.001	<.001
Q13	Cognitive test before- after.	.80000	.55086	.10057	.59430	1.00570	7.954	29	<.001	<.001
Q14	Cognitive test before- after.	.93333	.25371	.04632	.83860	1.02807	20.149	29	<.001	<.001
Q15	Cognitive test before- after.	.86667	.34575	.06312	.73756	.99577	13.730	29	<.001	<.001
Q16	Cognitive test before- after.	.86667	.34575	.06312	.73756	.99577	13.730	29	<.001	<.001
Q17	Cognitive test before- after.	.90000	.30513	.05571	.78606	1.01394	16.155	29	<.001	<.001
Q18	Cognitive test before- after.	.96667	.18257	.03333	.89849	1.03484	29.000	29	<.001	<.001
Q19	Cognitive test before- after.	.86667	.34575	.06312	.73756	.99577	13.730	29	<.001	<.001
Q20	Cognitive test before- after.	.90000	.30513	.05571	.78606	1.01394	16.155	29	<.001	<.001
Q21 Cognitive test before- after.		.96667	.18257	.03333	.89849	1.03484	29.00	29	<.001	<.001
Q22	Cognitive test before- after.	.93333	.25371	.04632	.83860	1.02807	20.149	29	<.001	<.001
Q23	Cognitive test before- after.	.96667	.18257	.03333	.89849	1.03484	29.000	29	<.001	<.001
Q24	Cognitive test before- after.	.83333	.37905	.06920	.69179	.97487	12.042	29	<.001	<.001
Q25	Cognitive test before- after.	.93333	.25371	.04632	.83860	1.02807	20.149	29	<.001	<.001
Q26	Cognitive test before- after.	.90000	.30513	.05571	.78606	1.01394	16.155	29	<.001	<.001
Q27	Cognitive test before- after.	.96667	.18257	.03333	.89849	1.03484	29.000	29	<.001	<.001
Q28 Cognitive test before- after.		.96667	.18257	.03333	.89849	1.03484	29.00	29.	<.001	<.001
Q29 Cognitive test before- after.		.93333	.25371	.04632	.83860	1.02807	20.149	29	<.001	<.001
Q30	Cognitive test before- after.	.96667	.18257	.03333	.89849	1.03484	29.000	29	<.001	<.001

Table (6) shows the T-scores to indicate the differences between the average scores for the cognitive test done by the female students before and after applying the content in proportion to the post application of the cognitive test, and there are differences in favor of the post application. T values ranged (7.95-29.00). Its' averages ranged from (0.83-0.96) and the standard deviation values ranged (0.18-0.55), which indicates that there are statistically significant differences.
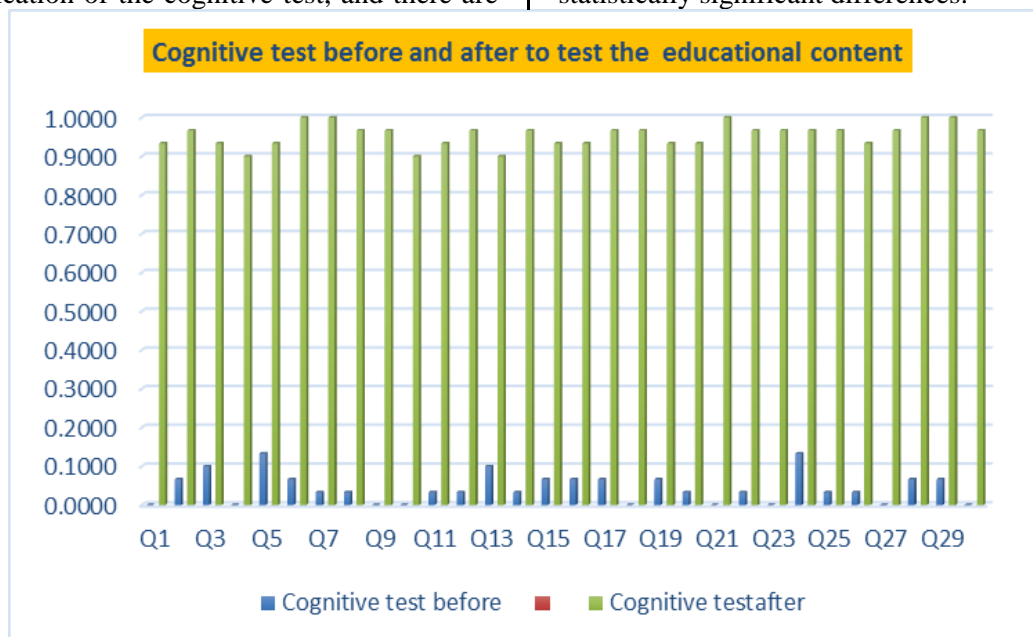
6- The tendency of students to e-learning.
Table (7) shows the students' attitudes to the scientific content applied by e-learning programs through the Telegram app.

ferries	Asymp. Sig	df	Chi-Square
The first axis: evaluation of trainers.			
1-The trainer gave me academic guidance when I needed it.	<.001	1	22.533a
2-The trainer used an innovative teaching method.	<.001	1	22.533a
3-The trainer provided me with feedback in more than one way (face to face) or (electronic).	<.001	1	19.200a
4-The trainer is very familiar with the scientific material and presents it in an interesting way.	<.001	1	22.533a
5-The trainer follows up the performance and work of the students in the required assignments, activities and projects.	<.001	1	30.200b
6-The trainer prepares the tests in accordance with the nature of the scientific material (knowledge and skill).	<.001	1	19.200a
7-The instructor presented tests in all aspects of the course.	<.001	2	34.400b
8-The trainer evaluates work and projects with fairness and equality.	<.001	1	22.533a
The second axis: the scientific material and the educational means and activities			
1-The scientific material is modern, useful and interesting.	<.001	1	22.533a
2-The scientific sources (websites and videos) are valid and easy to access and browse.	<.001	1	26.133a
3-Access to tasks and instructions is easy and fast.	<.001	1	6.533a
4-The teaching aids used are related to the scientific content.	<.001	1	26.133a
5-The teaching aids used are supported by the scientific content.	<.001	1	26.133a
6-The educational activities are varied and different.	<.001	1	22.533a
7-The educational activities are suitable for the scientific content.	<.001	1	19.200a
8-I can participate in the implementation of projects with my colleagues.	<.001	2	34.400b
The third axis: assessment of blended learning (in telegram)			
1-Telegram is one of the applications already in your mobile phone.	<.001	1	19.200a
2-Telegram is one of the best communication apps to use.	<.001	1	19.200a
3-Telegram keep my privacy.	<.001	1	22.533a
4- Blended learning raise your motivation to learn electronically.	<.001	1	19.200a
5- Telegram app support my communication with my colleagues.	<.001	1	22.533a
6-The app gives me the freedom to learn at any time and place.	<.001	1	19.200a
7-I can make friends with my colleagues.	<.001	2	38.600b

a.0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 15.0.
b.0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 10.0.
7- Arbitration results for (MUS) molds and clothing pieces executed by the female students.

Ferries	Mean	Median	Std. Deviation	percent
first axis: the general shape of the mannequin molds.				
1-The quality of the mannequin mold (MUS) is close to the quality of the ready-made mannequin.	4.8000	5.0000	.48423	83.3
2-The dimensions of the shape of mannequin mold (MUS) are compatible with the dimensions of the student's body shape.	4.7000	5.0000	.65126	80.0
3-The mannequin (MUS) is light in weight compared to the ready-made.	4.8667	5.0000	.43417	90.0
4-The mannequin mold (MUS) is easy to remove and install.	4.8333	5.0000	.46113	86.7
5-The mannequin mold (MUS) is characterized by the possibility of adjusting the length.	4.8333	5.0000	.46113	86.7
6- The mannequin mold (MUS) is characterized by the element of stability and balance at the ground level.	4.8667	5.0000	.43417	90.0
7-The mannequin (MUS) has congruence on both the right and left sides.	4.8333	5.0000	.46113	86.7
8-The transverse lines of the mannequin mold (MUS) are exactly parallel to the earth's surface.	4.8667	5.0000	.43417	90.0
The second axis: filling and finishing.				

Ferries	Mean	Median	Std. Deviation	percent
1-Some materials can be recycled to produce the mannequin (MUS).	4.8333	5.0000	.46113	86.7
2-The construction of the mannequin (MUS) is considered low cost.	4.8000	5.0000	.48423	83.3
3-The sewing links used in finishing the mannequin (MUS) are of high quality.	4.7333	5.0000	.63968	83.3
4-The mannequin is easy to insert sewing pins into.	4.9000	5.0000	.40258	93.3
5- The indicative strips are in their correct places.	4.8667	5.0000	.43417	90.0
The third axis: the executed clothing pieces				
1-The executed clothing pieces are suitable for the evening in terms of design.	4.8333	5.0000	.46113	86.7
2-The executed clothing pieces are suitable for the evening in terms of materials, embroidery and accessories.	4.8333	5.0000	.46113	86.7
3-The executed clothing pieces are in accordance with the mannequin measurements.	4.8667	5.0000	.43417	90.0
4-The executed clothing pieces are suitable for the student's body shape.	4.8333	5.0000	.53067	90.0
5-The executed clothing pieces are free from design defects.	4.7333	5.0000	.52083	76.7
6-The executed clothing pieces are free from technical defects.	4.7667	5.0000	.50401	80.0
7-The clothing pieces were executed by shaping on the mannequin.	4.7667	5.0000	.50401	80.0
8-The executed pieces are less expensive than similar clothing available in the market.	4.7667	5.0000	.50401	80.0

From the table (8) it is clear that the specialists agreed on the overall evaluation of the mannequin molds and the implemented clothing products, where the averages ranged (4.76-4.86), standard deviations (0.43-0.65), and percentages (76.7-90.0%).

Results and discussion:

The results proved the existence of sincerity, stability and internal consistency for each of the skills observation card and the cognitive test for the students which proves the credibility of each of them, the highest percentages were in the note card in favor of the phrase" finishing the mannequin"(0.741). Also questions 5,8 got the highest percentage (0.811-0.819) in the first group and questions 25,30 got the highest percentages (0.811-0.820) in second group.

The results of specialists' arbitration proved the acceptance of the course, especially the scientific content and its logical gradation and it obtained a percentage of 90% when it was applied to university students through the blended learning strategy. Many studies have confirmed the acceptance of university students for scientific subjects and various courses when applied through blended or electronic education such as the study (Charitopoulos.A., & Others.,2017) where the researcher suggested a method for using e-learning and blended learning for textile engineering education courses. In the study of (Ibrahim.D.,Elwan.N.,2019) the researcher confirmed that the experimental group (which the mixed learning strategy was applied) Achieved a higher rate of achievement compared to the control group which was taught by traditional methods) in both cognitive achievement and skills performance.

The results also proved the Telegram application is highly suitable for electronic communication with the students, due to its ease of use, its large capacity for images and the ease of uploading videos clips to it, in addition to its consideration of individual privacy and allowing the formation of groups consists of large numbers of students, which provides an opportunity to evaluate and follow up on students which make it easy to communicate with all of them; This was confirmed by the results of the study(Koutun.L.V.,& Other.,2021) where the researcher proved that Telegram app can be easily adapted and integrated into the educational process, in addition to organizing conversations through voice recognition and chat interfaces, which leads to an improved learning process.

The study (Fathi.H, 2018) proved the possibility of mixing traditional education with online education using social network applications (such as Telegram, Instagram and You tube) as educational tools for English language teachers.

The study (Sukmasetya.P.,&Other 2019) created a built-in learning module using Telegram app designed to address the problems related to the student's schedule, the short period of time of semester, and the difficulty of being in places to implement the learning activities.

The results of this study also proved the effectiveness of the blended learning for the application of this course, and was evident by comparing the results of pre and post tests to measure the extent to which students acquired the skills, knowledge, and information necessary to build the mannequin (MUS) and shape on it; T values came as (42.98-16.15), (29.0-7.95) in succession and in agreement with many studies.

The study (Hasanah H, Malik.H.N,2020) proved the effectiveness of e-learning model in improving

critical thinking and communication skills of university students.

In the study (Al-Mamouri. F. Abd Imam, Muteab.S.Y., 2022) The researcher proved the possibility of applying the mixed learning strategy to a group of physical education students in the sport of handball. It also proved that blended learning with digital communication has an effective impact on the development of handball control skills.

The study (Nuri.H.S.M,Bost.H.B.,2021) explained the impact of blended learning approach on English language learning skills (listening, talking, reading and writing) as a foreign language (EFL) in Iraq.

In the results, the highest chi-square in the first axis came in the favor of the phrase " The instructor presented tests in all aspects of course." with a score (34,4006b).

The highest chi-square in the second axis came in the favor of the phrase " I can participate in the implementation of projects with my colleagues." with a score (34.400b).

The highest chi-square in the third axis came in the favor of phrase "I can make friends with my colleagues." With a score (38.600b).

Study of (pramesti.D, Kusuma.A.I., 2020) proved the importance of working from home (WFH) and studying from home (SFH) as a kind of precaution for a crisis like the covid -19 crisis, also suggested the need to work in developing the possibilities available for distance learning and optimal use of technology, guiding students and support their assignments, evaluate the students in all tasks assigned to them, educate students about how to write scientific articles and methods of publishing in scientific journals and finally provide economic support for government programs. Study of (Helwa. H.S. Abdel-Hamid. A., 2020) proved the effectiveness of integrating the Telegram app in developing critical reading and writing skills among student teachers.

In the project (Sukmasetya.S.&Others,2019) distance teaching has been widely adopted, which includes blended learning and it is expected to demonstrate the effectiveness of using the Telegram application in blended learning and the adoption of technology-enhanced learning within the university.

There are many studies that dealt with how to make different mannequin molds, as mentioned in article that talked about the invention (Nan.S.S.M, 2009) and how he made a mannequin without any seams and with a lively and realistic shape. Its model consists of two overlapping bodies, one external and the other internal, both of which can be folded, inflated and deflated. The outer part consists of an adjustable head and torso. There is smooth movement between the two parts, which provides a realistic, life-like appearance.

In (https://www.maas.museum/app/uploads, 2019) the research paper presented some steps for making mannequin molds for some of the exhibition clothes, as it included the tools and measurements needed to make some simple pieces. This study is very similar to my current study.

An international application status report (TVOROGOVA, Vladimirovna.,2018) talked about an invention relates to the industry, and more particularly to a technique for manufacturing tailor's mannequin for fitting clothing during the clothing production process and for displaying clothing

Conclusion:

The study proved the effectiveness of blended learning in providing the students with the information and skills needed to manufacture a mannequin with special stature (MUS) at a low cost from the available environmental materials in addition of the possibility of forming clothes on it and implementing some clothing pieces as if it is a standard mannequin mold. In addition to its distinctiveness with some characteristics such as expressing the dimensions and measurements of the body of the student who made it, and thus not having to modify the measurements and shape of the standard mannequin. It's light in weight and easy to transport and install. In some cases, we found differences between the measurements of the mannequin mold (MUS) and the personal measurements of the female students, and they were modified according to their different cases, whether they were in the longitudinal or transverse lines, and whether they were increasing or decreasing.

The effectiveness of the program has been proven through the statistical treatments of the spss22 program to answer the research questions by applying the following:

1- Evaluating the knowledge content, including its general and specific objectives for each subject, the teaching methods, the teaching aids used, the educational activities, the evaluation process, as well as the feedback.

2- The validity and reliability of the form for assessing the cognitive aspect of the information and concepts related to the subject of the study.

3- There is a consistency of the observation card form used to measure the skills related to the subject of the study.

4- Comparison of the pre and post cognitive test average difference (.31-.48).

5- Comparison of the pre and post observation card average difference (.83-.96).

6- The high percentage of female students' tendency to blended learning and the use of the Telegram app up to 26.133a-38.600b.

7- High percentages of manufacturing (MUS) mannequins (4.90%).

8- The high percentage of products executed by the Germanic method (4.86%).

Recommendations:

1- Use of social networking programs such as Instagram, Telegram and WhatsApp, because of their effectiveness in educating students.

2- Take advantage of educational materials and new ideas found on search engines such as Pinterest and YouTube.

3- The use of e-learning in various educational institutions because it is the future of development at all levels.

4- Constantly urging sustainability, recycling and

trying to make the most of the available environmental materials.

5- Integrating e-learning and face to face education, especially in subjects that contain a theoretical aspect and an applied aspect.

6- The manufacture of mannequin molds(MUS) is of great importance in the fields of home economics, weaving, clothing design and manufacturing.

References:

1- Al Alawneh A. A. F, & Others,2021,The Case of Fashion SMES in Jordan, International and Journal of Fashion Design,Technology and Education.Volume 15,issue2:221-232.

2- Al-Mamouri F. Ablmran, Muteab S. Y, The impact of blended learning and digital Communication on students' quick attack and refereeing skills in hand ball, journal of steps for Humanities and Social sciences, Vol1(2022) Iss.3

3- Buhu A, Buhu.L,2021, Designing Courses for Technical Disciplines for Online and Blended Learning, The 7th International Symposium TTPF, Iasi, Romania,199:204

4- Charitopoulos.A,& Others,2017, E-learning and blended learning in textile engineering education: a closed feedback loop approach, IOP Conference Series Materials Science and Engineering 254(22):222002, October,P1-8.

5- Fathi.H.,2018, Blended language learning using Social Mrdia Networks (Teleghram vs.Instagram) as pedagogical Tool to Enhance Reaing Comprehension,Journal of Linguistics and literature,2(1):30-35

6- Hasanah H, Malik.H.N,2020 ,Blended learning in improving students' critical Thinking a nd Communication skills at University ,Cypiot Journal of Educational Sciences, Vol 15,Isse 5,1295-1306.

7- Helwa.H.S.Abdel -Hamid.A.,2020,Integrating Telegram application into digital mind mapping to develop student teachers' EFL critical reading and writing skills, ,Journal of Faculty of Education Egypt, No (121) January , Part (2), 1-54.

8- https://www.maas.museum/app/uploads/2019/08/ADR_Making-Mannequins-Part-1_25Oct18.pdf

9- Ibrahim.D., Elwan.N., 2019, The effectiveness of blended learning strategy to develop students' skills in making seams and retention among female students of clothing and textiles department at the faculty of home economics at Al-Azhar University. Journal of architecture, Arts and humanistic sciences, Vol 4,Issue 15,Mayand June,573:599

10-Koutun.L.V, & Others, 2021, Telegram chat Bot As An educational tool in blended learning Environment conference on Education and New learning Technologies, July,1851.

11-Lee.Y.k. ,2021, Fashion CAD education during the COVID-19 pandemic in South Korea :Comarision of on line and of line learning achevements,International Journal of fashion Design, Technology and Education,245-255.

12-Maqsood.E.,&Others., 2019,The Impacts of Differenet Woven Fabrics on Three Draping Techniques, International Design journal,Volume9,Issue2:147-155

13-Nan S. S. M , 2009,Seamless mannequin and process of manufacture thereof, United statues palent Nan. palent No US 7,530,480 B2, Date of palent :May 12

14-Nuri.H.S.M,Bost.H.B.,2021,Blended learning to improve University students' language skills in the Iraqi ,ContextTurkish journal of computer and Mathematics Education (TURCOMAT) Appril,Vol No72(2):246-255.

15-Omovies.Z.T,Tyler.D.J.,2021.Experienced versus in experienced mobile users:eye tracking fashion consumers shopping behaviour on smartphones, International and Journal of Fashion Design,Technology and Education, Volume 15,issue2,178:186.

16-Pramesti. D., Kusuma.A.I., 2020, Design of Telegram Assisted E-work Team Based Blended Learning in Entrepreneur Learning,Advances in Social Science,Education and Humanities Research,2020,Vol 439,41:47

17-Shehard.A.,2020,Textiles literacy:implementing Inquiry-Based Learning in Basic Textiles Class,Clothing and Textiles Research Journal, Mayg,ISSN:2022,

18-Solangil.W.H, & Others,2015 , Development of One Piece Fashion Garment with Four Panels using Draping Techniques Stitched with 505stitch Type, Marmara J.Pure Appl.Sci. Special Issue-1:99-106.

19-Sukmasetya.P.,&Other., 2019, Blended Learning with Telegram: An Approach using Soft System Methodology to Solve Multi-Perspective Problem in Learning Limitation," 2019 Fourth International Conference on Informatics and Computing (ICIC), 2019, pp. 1-6.

20-Suliyanthini.D.,&Other.,2021, The impact of blended learning applied in textile physics course on pattern grading learning outcomes, The 9th National Physics Seminar,AIP Conf. Proc. 2320, 020024-1–020024-6.

21-TVOROGOVA, Vladimirovna.A,(RU,RU),2018,International Application Status Report Publication Language" Russian" ,13 December 2018.

22-Yick. K- Lun& Others, 2019, Effectiveness of blended learning in the first year of fashion education, International Journal of Fashion Design, Technology and Education, Volume 12, Issue 2 ,Pages 178-188.

23-Zhao.L.,Kim.K.,2021,Responding to the COVID-19 Pandemic:Practies aand strategies of Global Clothing and Textile Value Chain Clothing and Textiles Research Journal volume 39,Issue 2:139-156.

24-Zhao.L.,Min.C.,2018,The Rise of Fashion lnformatics: Acase of Data –Mining-Based Social Network Analysis in Fashion,Clothing and Textiles Research Journal, volume37 issue2:87-102