EFFECTIVENESS OF THE PROPOSED TRAINING COURSE TO DEVELOP CREATIVE THINKING IN FASHION DESIGN

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ABSTRACT
This study aims at developing creative thinking in the field of fashion design in drawing methods for freshman female students in the College of Arts and Design at Princess Nourah bint Abdulrahman University, and at measuring the level of creativity in this field. The study followed an experimental approach that employed a variety of methods and tools to collect the scientific data for the study. In order to ensure that the obtained information and data were complete and precise, the following tools were utilized: the proposed training course for developing creative thinking, Torrance tests of creative thinking, pre- and post-cognitive achievement tests, assessment scale for the level of creative thinking skills (originality, fluency, flexibility and elaboration) in fashion design, an applied exam to measure creative thinking skills taught in the proposed course and observation. The study sample of 75 students (experimental group) and 30 students (control group) was generated from freshman students, all of whom are female, of the College of Arts and Design. The study found statistically significant differences between the female students' average grades on the pre- and post-cognitive achievement tests for creative thinking in favour of the post-application. It also found statistically significant differences between the students' average grades in the experimental and control groups in the post cognitive achievement test for creative thinking in favour of the experimental group and their average grades on the pre- and post-skills test for creative thinking in favour of the post-application. There are statistically significant differences between the experimental and control groups' average grades on the post-skills test in favour of the experimental group. The study also found that the female students' opinions towards the training course were positive.

Keywords: *training course, creative thinking, fashion design*

INTRODUCTION AND PREMISE OF THE STUDY
Scholars and researchers in every field care deeply about creativity. Several studies and much research has dealt with the nature of creativity, its development and the different, overlapping factors in its generation. The main goal of this research is to know why and how some people think differently and the ways they organize, plan and actualize their understanding. The goal of the educational process is no longer limited to imparting students with common knowledge and facts, but rather preparing them to develop their ability to think and imparting them with the ability to work well with the ever-increasing information from the data revolution seen in the world today. Additionally, it is preparing suitable conditions for them to think about a creative method, receive training in it and communicating with others in an accurate, scientific way through fashion design. Al-Qahtani (2007: 1) mentioned that designers translate design through innovative shapes, lines, colours and textiles suitable for the time.

Al-Ghamidi (2011: 210) noted that different, non-traditional raw materials are considered to be one of the sources that prompt students to exploit their imaginative capabilities and develop their innovative skills, which help in creating designs distinguished by originality and peculiarity. Fashion design is considered a visual and applicable art that contributes to preparing graduates who are equipped with cognitive, innovative abilities and skills to accompany the rapid development of the world (Ahmed and Zaghloul 2007: 7). Jad and Al-Hindawia (2000) noted that training in creative thinking strategies and skills develops the student's ability to innovate and fosters more creativity in the product.

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This study contributes to the development of creative thinking in the field of fashion design and to the students benefiting from the skills in designing innovative fashion designs. The results of the study also present a practical introduction that exposes the students to real problems that force them to contemplate, reflect and innovate in solving the problems through creative thinking skills to reach new artistic perspectives. It is also for the sake of supporting communication in teaching and finding modern methods and strategies to develop innovative thinking characterized by fluency, flexibility, originality and elaboration.

goals of the study:

- Identifying the level of creative thinking in the field of fashion design of the female students of the College of Arts and Design before applying the course.
- Preparing a proposed training course that helps in developing creative thinking in the field of fashion design for female students of the College of Arts and Design.
- Identifying the course's effectiveness in developing creative thinking in the field of fashion design for female students of the College of Arts and Design.
- Identifying the female students' opinions of the course.

hypotheses of the study:

- There are statistically significant differences between the students' average grades on the pre- and post-cognitive achievement test in the experimental group in favour of the post-test.
- There are statistically significant differences between the students' average grades on the cognitive achievement test for the experimental and control groups on the post-test in favour of the experimental group.
- There are statistically significant differences between the experimental and control groups' average grades on the creative thinking abilities post-tests (Torrance tests) in favour of the experimental group.
- There are statistically significant differences between the experimental and control groups' average grades on the skills post-test relative to creative thinking skills in the field of fashion design (drawing).
- Students have positive opinions about the training course.

Significance of the study*:*

This study is concerned with evaluating a creative course that works at developing creative and innovative abilities for female students in the field of fashion design in the methods of drawing by using innovative methods in teaching, and changing the traditional notion that depends on instructing the students without considering the process of developing creative thinking.

Terms

Fashion design*:*

An art form in which elements of design and aesthetics are applied to the creation of clothing and accessories.

Fashion design requires skill at arranging elements and ideas, and adaptation to society at a particularly point in time. It is also a process, the purpose of which is to create something new and innovative (Ahmed 2011).

Creative thinking*:*

An intellectual process that we use to reach new ideas and visions or that leads to the integration of thoughts and things previously thought to be unconnected. This definition is closer to the definition of creativity, except that it differs from it in that creativity is the fruit of creative thinking. When a new creative thought appears, then the intellectual process that brought us to this idea is what is called creative thinking (Hananu 2008, 7).

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***Creative thinking skills**:*

Most researchers agree that creative thinking includes three skills: fluency, flexibility and originality. According to the Torrance scale for creative thinking, it also includes two sub-skills: sensitivity to problems and sensitivity to details (Al-Barqawi 2014, 32).

Fluency: the ability to produce a large number of ideas and questions.

Flexibility: the ability to produce a large and diverse number of ideas and to move from one specific kind of idea to another.

Originality: the ability to think in a new way, or express the strange, and to produce more skilful ideas than commonplace ideas.

Elaboration: the ability to add several details to an idea or specific product.

The working definition of creative thinking skills in this study is the average grade that the students obtained in the Torrance skills and cognitive achievement tests before and after the proposed training course by using creative thinking skills (fluency, flexibility, originality and elaboration).

Torrance tests:

Tests used to determine and select individuals who have the ability to innovate when the sociocultural environment provides them with what is appropriate and helpful for that. These tests also measure creative thinking abilities known as: fluency, flexibility, originality and elaboration. The verbal and nonverbal Torrance tests are among the most important tests available to measure creative thinking. A Torrance test is composed of a verbal and nonverbal section, based on the theoretical idea that creativity is a mental process with many overlapping factors that are common to all members of the human race, and that the differences between individuals are differences in degree and not in kind (Ghadban 2011, 110-113).

PREVIOUS STUDIES:

- One study (Mansour and Ibrahim 2014) aimed at preparing a course to develop creative abilities in fashion design for female students of the College of Home Economics. The sample of the study was based on sixth-level students of the Department of Home Economics in the College of Sciences and Education in Khorma at Taif University. It found statistically significant differences between the experimental and control groups' average grades on the cognitive achievement test in favour of the experimental group, as well as in the average grades of the two groups regarding the evaluation of creative abilities in favour of the experimental group.
- Another study (Trad 2012) aimed at understanding the effect of a course created by Costa and Kalick in developing creative thinking by using mental habits in third-year students in the College of Physical Education, and at identifying the differences in developing creative thinking in using mental habits among students according to the gender variable. This study used a two-group experimental design (control and experimental groups). The sample of the study consisted of 60 third-year students in the College of Physical Education at the University of Babylon and employed a creative thinking pre-test with the use of the Torrance scale on the study participants. Afterwards, the course that consisted of ten practical education units (mental habits) was applied/implemented. The period of the educational unit lasted 60 minutes and was given once a week for ten weeks. After the completion of the educational course, post-tests similar to the Torrance test for creative thinking were carried out on the two aforementioned groups. Among the important results: The Costa and Kalick course had a positive effect on learning and developing creative thinking by using mental habits among third-year students of the College of Physical Education. The educational course also had the same effect in developing creative thinking by using mental habits among the students. The educational course also had the same effect in developing creative thinking abilities (originality, fluency and flexibility) by using mental habits on students.

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- Another study (Al-Aqil 2011) aimed at identifying the effect of using proposed enriched thinking activities in developing integrative thinking processes and creative thinking among primary-school students. The experimental approach was based on designing the control group with a pre- and post-test. The study also aimed to learn the gifted students' opinions on the effect of using enriched thinking activities in developing integrative thinking processes and their creative skills through using qualitative design in educational studies. The sample was composed of 50 sixth-grade students who joined the evening programs at the Riyadh Centre for the Gifted. The tools included proposed enriched thinking activities, a test to measure integrative thinking processes, an interview card for the gifted students (all prepared by the researcher), and creative thinking tests applied in Aurora battery scales. The most prominent result was a statistically significant difference between the experimental and control groups' average grades and the average size effect in applying the integrative thinking processes skills post-test as a whole (grand total). There was also a statistically significant difference in the two skills of differentiating/controlling the variables and interpreting the data in favour of the experimental group. Meanwhile, there were no statistically significant differences between the experimental and control groups' average grades in applying the integrative thinking processes skills post-test in two skills: making assumptions and experimenting. There was a small size effect in applying the working definition skill post-test. There were statistically significant differences between the average grades of the students in the experimental and control groups in favour of the experimental group according to the entire creative thinking post-test (grand total) along with its five different sections (a test on the various uses of things, on book covers, on discussions between things, on stimulating language, and on discussion of numbers). There was a sizeable effect in the proposed enriched thinking activities on creative thinking skills. The students stressed the effective role of the proposed enriched thinking activities in their improved thinking processes and creative thinking skills. They also gained both mental and performance skills through direct, practical application. Their preference was to learn sciences through practical experiments that they performed themselves, whether inside or outside the lab. These experiments were the main reason that prompted them to learn sciences and creativity.
- Another study (Saleh 2008) aimed at knowing the effectiveness of an enriched course in home economics to develop creative thinking among gifted female students. The experimental approach used was through an experimental group and another control group in addition to the pre- and post-measures. After it was designed, the course was applied to a sample of 50 sixth-grade female students at the Centre for the Gifted. The study yielded several important results: The effectiveness of the proposed course to develop creative thinking among the study sample was compared to the standard educational method. It surpassed the level of general innovative thinking among the sixth-grade gifted female students in its four dimensions (fluency, flexibility, originality and elaboration). The proposed enriched course to develop creative thinking excelled generally and in every individual case when compared to the standard educational method.
- Another study (Jad 2000) aimed at uncovering the effect of training on some thinking strategies and skills in all of the capacities of innovation, and the degree of creativity of the artistic designer. The study sample consisted of 70 female students from the Home Economics Branch of the third division in the College of Special Education at Tanta University. It was a random sample (control group and experimental group). The study found that training in creative thinking strategies and skills develops creative thinking abilities. It also found that training in creative thinking strategies raises one's degree of creativity.

METHODOLOGY OF THE STUDY:

Experimental design.

Study population:

The population in the study is composed of freshman female students of the College of Arts and Design at Princess Nourah bint Abdulrahman University in Riyadh enrolled in the course Introduction to the Arts and Design.

Sample:

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Freshman female students of the College of Arts and Design at Princess Nourah bint Abdulrahman University in Riyadh in the Introduction to the Arts and Design course for two semesters. It is a random sample consisting of an experimental group (75 students) and a control group (30 students).

Methods of collecting scientific data:

A variety of methods and tools to collect scientific data for the study were used. In order to ensure that the obtained information and data was complete and precise, the following tools were included:

- The proposed course to develop creative thinking in the field of fashion design (the course lasts four weeks at a rate of five hours).
- The cognitive achievement pre- and post-test for both the control and experimental groups.
- Pre- and post-Torrance tests to measure creative thinking skills (flexibility, fluency, originality and elaboration) for both the control and experimental groups.
- Pre- and post-skills tests for both the control and experimental groups.
- Assessment scale to evaluate the designs.
- Questionnaire to evaluate the course.
- Survey to measure the students' opinion of the course.

Authenticity and reliability of the tools of the study:

- The proposed course was presented to a group of assessors who specialize in this field to ensure the suitability of its implementation. The assessors agreed unanimously upon the course's suitability while making some suggestions for the specialized course (Attachment 1).
- The assessment scale to evaluate the designs was shown to five assessors to identify their vision concerning the appropriate extent of the scale before applying it and if it meets the desired goals. The assessors made their remarks. Taking into account these remarks, the scale was amended (Attachment 2).
- The designs of the members of the sample were shown to a group of assessors who specialize in the field of fashion design and judged them (Attachment 3).
- Torrance tests were corrected in a specialized centre.
- The proposed course was applied to the study sample composed of ten second-semester freshmen female students in the College of Arts and Design of the 1435-1436 AH (2014-2015 AD) school year to ensure the course's suitability in application.
- Reliability of the cognitive achievement and skill test: it was reapplied with similar results.

RESULTS AND DISCUSSION

Effects of completing the proposed training course on the students in the study sample:

Cognitive achievement test:

Table 1 explains the T test to understand the equivalence of the experimental and control groups in the cognitive achievement pre-test.

Group	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Experimental	6.19	2.364	103	- 2.489	0.314
Control	7.40	1.958			

* Significance at 0.05

Explanation of Table 1:

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There are no statistically significant differences between the experimental and control groups in the cognitive achievement pre-test, which reached a T-coefficient of - 2.489 at a degree of freedom of 103, level of significance of 0.314 and is higher than 0.05, which points to the equivalence of the two groups.

Table 2 explains the T test to show the statistical differences between the cognitive achievement pre- and post-test in the experimental group.

Test type	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Pre-	6.19	2.364	74	- 26.660	0.00*
Post-	16.03	2.790			

* Significance at 0.05

Explanation of Table 2:

There are statistically significant differences between the cognitive achievement pre- and post-test in the experimental group in favour of the post-test, which reached a T-coefficient of - 26.660 at a degree of freedom of 74 and a level of significance of 0.00 and is smaller than 0.05.

Table 3 explains the T test to show the statistical differences between the cognitive achievement pre- and post-test in the control group.

Test type	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Pre-	7.40	1.958	29	- 5.183	0.00*
Post-	9.97	2.399			

* Significance at 0.05

Explanation of Table 3:

There are statistically significant differences between the cognitive achievement pre- and post-test in the experimental group in favour of the post-test, which reached a T-coefficient of - 5.183 at a degree of freedom of 29 and a level of significance of 0.00 and is smaller than 0.05.

Table 4 explains the T test to understand the equivalence of the experimental and control groups in the cognitive achievement post-test.

Group	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Experimental	16.03	2.790	103	10.445	0.00*
Control	9.97	2.399			

* Significance at 0.05

Explanation of Table 4:

There are statistically significant differences between the experimental and control groups in the cognitive achievement post-test in favour of the experimental group, which reached a T-coefficient of 10.445 at a degree of freedom of 103 and level of significance of 0.00 and is higher than 0.05.

Torrance tests for measuring creative thinking skills:

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Table 5 explains the T test to understand the equivalence of the experimental and control groups in the Torrance pre-test for measuring a group of creative thinking skills (flexibility, fluency, originality and elaboration).

Group	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Experimental	99.02	19.37	103	0.226	0.822
Control	98.13	15.32			

* Significance at 0.05

Explanation of Table 5

There are no statistically significant differences between the experimental and control groups in the Torrance pre-test for measuring a group of creative thinking skills (flexibility, fluency, originality and elaboration), which reached a T-coefficient of 0.226 at a degree of freedom of 103 and a level of significance of 0.822 and is higher than 0.05, which points to the equivalence of the two groups.

Table 6 explains the T test to show the statistical differences between the Torrance pre- and post-test for measuring a group of creative thinking skills (flexibility, fluency, originality and elaboration) in the experimental group.

Test type	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Pre-	99.02	19.37	74	- 17.87	0.00*
Post-	125.96	17.64			

* Significance at 0.05

Explanation of Table 6

There are statistically significant differences between the Torrance pre- and post-test for measuring a group of creative thinking skills (flexibility, fluency, originality and elaboration) in the experimental group in favour of the post-test, which reached a T-coefficient of - 17.87 at a degree of freedom of 74 and a level of significance of 0.00 and is smaller than 0.05.

Table 7 explains the T test to show the statistical differences between the Torrance pre- and post-test for measuring a group of creative thinking skills (flexibility, fluency, originality and elaboration) in the control group.

Test type	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Pre-	98.13	15.32	29	- 4.23	0.00*
Post-	114.70	17.70			

* Significance at 0.05

Explanation of Table 7

There are statistically significant differences between the Torrance pre- and post-test for measuring a group of creative thinking skills (flexibility, fluency, originality and elaboration) in the control group in favour of the post-test, which reached a T-coefficient of - 4.23 at a degree of freedom of 29 and a level of significance of 0.00 and is smaller than 0.05.

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Table 8 explains the T test to understand the equivalence of the experimental and control groups in the Torrance test for measuring a group of creative thinking skills (flexibility, fluency, originality and elaboration).

Group	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Experimental	125.96	17.64	103	2.95	0.004*
Control	114.70	17.70			

* Significance at 0.05

Explanation of Table 8

There are statistically significant differences between the experimental and control groups in the Torrance post-test for measuring a group of creative thinking skills (flexibility, fluency, originality and elaboration) in favour of the experimental group, which reached a T-coefficient of 2.95 at a degree of freedom of 103 and a level of significance of 0.00 and is smaller than 0.05.

Skill test to evaluate the level of creative thinking in the field of fashion design.

Table 9 explains the T test to show the statistical differences between the skill pre- and post-test in the experimental group that depend on creative thinking skills (originality, fluency, flexibility and elaboration) in the field of fashion design (drawing).

Skill	Test type	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Originality	Pre-	4.09	1.64	74	- 48.26	0.00*
	Post-	11.81	3.07			
Fluency	Pre-	2.64	1.07	74	- 45.67	0.00*
	Post-	7.61	2.003			
Flexibility	Pre-	5.62	2.14	74	- 44.24	0.00*
	Post-	15.23	3.95			
Elaboration	Pre-	4.16	1.59	74	- 45.49	0.00*
	Post-	11.66	3.001			
Group	Pre-	16.53	5.92	74	- 48.04	0.00*
	Post-	46.32	11.59			

* Significance at 0.05

Explanation of Table 9

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- There are statistically significant differences between the pre- and post-test in the experimental group for the skill of originality in favour of the post-test, which reached a T-coefficient of - 48.26 at a degree of freedom of 74 and a level of significance of 0.00 and is smaller than 0.05.
- There are statistically significant differences between the pre- and post-test in the experimental group for the skill of fluency in favour of the post-test, which reached a T-coefficient of - 45.67 at a degree of freedom of 74 and a level of significance of 0.00 and is smaller than 0.05.
- There are statistically significant differences between the pre- and post-test in the experimental group for the skill of flexibility in favour of the post-test, which reached a T-coefficient of - 44.24 at a degree of freedom of 74 and a level of significance of 0.00 and is smaller than 0.05.
- There are statistically significant differences between the pre- and post-test in the experimental group for the skill of elaboration in favour of the post-test, which reached a T-coefficient of - 45.49 at a degree of freedom of 74 and a level of significance of 0.00 and is smaller than 0.05.
- There are statistically significant differences between the pre- and post-test in the experimental group for the skill of elaboration in favour of the post-test, which reached a T-coefficient of - 48.04 at a degree of freedom of 74 and a level of significance of 0.00 and is smaller than 0.05.

Table 10 explains the T test to show the statistical differences between the skill pre- and post-test in the control group in that depend on creative thinking skills (originality, fluency, flexibility and elaboration) in the field of fashion design (drawing).

Skill	Test type	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Originality	Pre-	4.37	2.24	29	- 4.67	0.00*
	Post-	5.32	2.14			
Fluency	Pre-	3.02	1.42	29	- 4.90	0.00*
	Post-	3.68	1.40			
Flexibility	Pre-	6.25	2.85	29	- 6.22	0.00*
	Post-	7.87	2.56			
Elaboration	Pre-	4.65	1.96	29	- 5.57	0.00*
	Post-	5.51	1.66			
Group	Pre-	18.29	8.21	29	- 5.84	0.00*
	Post-	22.38	7.11			

* Significance at 0.05

Explanation of Table 10:

- There are statistically significant differences between the pre- and post-test in the control group for the skill of originality in favour of the post-test, which reached a T-coefficient of - 4.67 at a degree of freedom of 29 and a level of significance of 0.00 and is smaller than 0.05.

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- There are statistically significant differences between the pre- and post-test in the control group for the skill of fluency in favour of the post-test, which reached a T-coefficient of - 4.90 at a degree of freedom of 29 and a level of significance of 0.00 and is smaller than 0.05.
- There are statistically significant differences between the pre- and post-test in the control group for the skill of flexibility in favour of the post-test, which reached a T-coefficient of - 6.22 at a degree of freedom of 29 and a level of significance of 0.00 and is smaller than 0.05.
- There are statistically significant differences between the pre- and post-test in the control group for the skill of elaboration in favour of the post-test, which reached a T-coefficient of - 5.57 at a degree of freedom of 29 and a level of significance of 0.00 and is smaller than 0.05.
- There are statistically significant differences between the pre- and post-test in the control group for all of the skills of elaboration in favour of the post-test, which reached a T-coefficient of - 5.84 at a degree of freedom of 29 and a level of significance of 0.00 and is smaller than 0.05.

Table 11 explains the T test to understand the equivalence of the experimental and control groups in the skill post-test **relative to creative thinking skills (originality, fluency, flexibility and elaboration) in the field of fashion design (drawing).**

Skill	Group	SMA	Standard deviation	Degree of freedom	T-value	Statistical significance
Originality	Experimental	11.81	3.07	103	25.88	0.00*
	Control	5.32	2.14			
Fluency	Experimental	7.61	2.003	103	24.07	0.00*
	Control	3.68	1.40			
Flexibility	Experimental	15.23	3.95	103	23.09	0.00*
	Control	7.87	2.56			
Elaboration	Experimental	11.66	3.001	103	25.94	0.00*
	Control	5.51	1.66			
Group	Experimental	46.32	11.59	103	25.81	0.00*
	Control	22.38	7.11			

* Significance at 0.05

Explanation of Table 11:

- There are statistically significant differences between the experimental and control groups for the skill of originality in the post-test in favour of the experimental group, which reached a T-coefficient of 25.88 at a degree of freedom of 103 and level of significance of 0.00 and is higher than 0.05.
- There are statistically significant differences between the experimental and control groups for the skill of fluency in the post-test in favour of the experimental group, which reached a T-coefficient of 24.07 at a degree of freedom of 103 and level of significance of 0.00 and is higher than 0.05.

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- There are statistically significant differences between the experimental and control groups for the skill of flexibility in the post-test in favour of the experimental group, which reached a T-coefficient of 23.09 at a degree of freedom of 103 and level of significance of 0.00 and is higher than 0.05.
- There are statistically significant differences between the experimental and control groups for the skill of elaboration in the post-test in favour of the experimental group, which reached a T-coefficient of 25.94 at a degree of freedom of 103 and level of significance of 0.00 and is higher than 0.05.
- There are statistically significant differences between the experimental and control groups for all of the skills in the skill post-test in favour of the experimental group, which reached a T-coefficient of 25.81 at a degree of freedom of 103 and level of significance of 0.00 and is higher than 0.05.

Measuring student satisfaction toward the proposed course for developing creative thinking in the field of fashion design:

Table 12 clarifies the sample members' opinions concerning student satisfaction toward a course for developing creative thinking in the field of fashion design.

No	Statement		Degree of agreement					Average	Standard deviation	Arrangement
			Strongly agree	Agree	Somewhat agree	Disagree	Strongly disagree			
1	The goals of the course are clear	R	33	30	9	2	0	4.27	0.782	2
		%	44.6	40.5	12.2	2.7	0			
2	The scientific component of the course is appropriate	R	20	43	6	4	1	4.04	0.835	3
		%	27	58.1	8.1	5.4	1.4			
3	The methods that were followed in the course are appropriate	R	31	36	7	0	0	4.32	0.643	1
		%	41.9	48.6	9.5	0	0			
4	I gained experience and additional skills after finishing the course	R	31	21	17	3	2	4.03	1.03	4
		%	41.9	28.4	23	4.1	2.7			
5	Appropriate time for course completion	R	28	26	10	10	0	3.97	1.03	5
		%	37.8	35.1	13.5	13.5	0			
6	The quality level of the tools used in activity implementation is good	R	23	31	15	4	1	3.96	0.928	6
		%	31.1	41.9	20.3	5.4	1.4			
7	The course helped in developing creativity in designing and implementing fashion	R	15	31	25	2	1	3.77	0.853	7
		%	20.3	41.9	33.8	2.7	1.4			
General arithmetic mean = 4.05, General standard deviation = 0.553										

Table 12 shows the statements of student satisfaction toward the course for developing creative thinking in the field of fashion design among the sample's individuals, arranged according to the following structure:

- **"The methods that were followed in the course are appropriate"** reached a mean of 4.32, which indicates that the sample's individuals strongly agreed with this statement.

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- **"The methods that were followed in the course are appropriate"** reached a mean of 4.27, which indicates that the sample's individuals strongly agreed with this statement.
- **"The scientific component of the course is appropriate"** reached a mean of 4.04, which indicates that the sample's individuals agreed with this statement.
- **"I gained experience and additional skills after finishing the course"** reached a mean of 4.03, which indicates that the sample's individuals agreed with this statement.
- **"Appropriate time for course application"** reached a mean of 3.97, which indicates that the sample's individuals agreed with this statement.
- **"Quality level of the tools used in activity implementation is good"** reached a mean of 3.96, which indicates that the sample's individuals agreed with this statement.
- **"The course helped in developing creativity in designing and implementing fashion"** reached a mean of 3.77, which indicates that the sample's individuals agreed with this statement.

It is clear from the general arithmetic mean of 4.05 that the rate of the sample individuals' satisfaction with the proposed course is high, and that the views of the sample's individuals toward the course are positive, which indicates the significance and success of the training course.
It is clear from the previous results that the experimental group students, on whom the proposed training course was applied, surpassed the control group students, on whom the traditional method was applied, in developing creative thinking. This shows that the course worked at developing and increasing creative thinking skills in fashion design. Thus, the extent of the proposed course's effectiveness in raising the level of female students' creative thinking is confirmed. This conclusion conforms to the results of previous studies that were performed, among them *Mansour and Ibrahim* (2014), *Trad* (2012), *Al-Aqil* (2011), *Saleh* (2008), and *Jad* (2000), which exposed students to new experiences and skills.

RECOMMENDATIONS:

- Apply the benefits from the course in the freshman-year fashion design curriculum.
- Guarantee the development of creative thinking in the College of Arts and Design curricula.
- Encourage more scientific research in the field of developing creative thinking, whether for students, staff, or society.
- Transform the benefits of the students' skills into a product.
- Establish specialized courses in the development of creative thinking in the field of fashion design directed towards society.
- Hold training sessions for faculty members about developing creative thinking among students.

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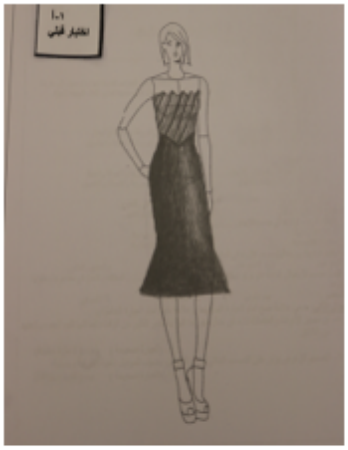
Samples of some of the students' designs before and after in the control group



Designs No (1.2.3) before.

Designs No (1.2.3) after.

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Designs No (4.5.6) before.

Designs No (4.5.6) after.

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Designs No (7.8.9) before.

Designs No (7.8.9) after.

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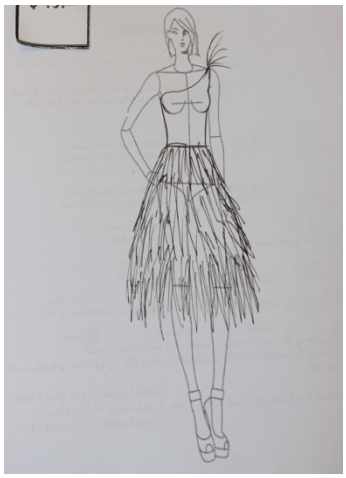
Designs No (10) before.



Designs No (10) after.

Samples of some of the students' designs before and after applying the course in the field of fashion design (drawing)

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Designs No (1.2.3) before course application.

Designs No (1.2.3) after course application.

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Designs No (4.5.6) before course application.

Designs No (4.5.6) after course application.

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Designs No (7.8.9) before course application.

Designs No (7.8.9) after course application.

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Designs No (10.11.12) before course application. Designs No (10.11.12) after course application.

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Designs No (13.14.15) before course application.

Designs No (13.14.15) after course application.

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