

A Scientific-Based Program for Inspection and Quality in Apparel Industry

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ABSTRACT

Final Random Inspection(FRI) and quality are among the basic elements considered in the clothes manufacturing process and their export. It is one of the processes that require time and experience to master it by those in charge. When teaching clothes technology, there is a close link between technology and high quality of clothes manufacture as the quality is the product of technology and good manufacture. Combination of quality of garments or garments products in general and the education program, with its examples and scientific foundations is therefore a combination for high quality clothes that can increase students' experience of the professional aspects and increase their ability to interact with the labor market. This falls within the scope of E-learning which can be defined as a method of teaching using modern technology with all its forms including computer and its networks: sound and image, graphics & mechanisms of search and electronic gates whether remote or in the classroom, so that information can touch the base with the learner in the shortest time and with the least effort and cost and the greatest benefit. ⁽¹⁾ A questionnaire has been made to determine the level of knowledge among students concerning inspection, quality and classification of defects and it was found that the students' information is incorrect and is far from practical reality. The scientific and technical skills to classify defects are, thus, considered very low and the educational program was made to provide students with the scientific basis of the quality and inspection in the garments industry.

KEY WORDS: Quality, Final Random Inspection, Garments Industry , Educational Program

INTRODUCTION

Training programs are considered important to raise the educational level and the skill of the learners and trainees including a training program for preparing young graduates to work in the garments industry, where the importance of research lies in determining the effectiveness of the training program in the acquisition of knowledge and skills for young graduates, which qualify them to work in the garments industry with the preparation and training of young graduates to equip them with the skills needed by the labor market and contribute to solving the problem of unemployment. The researcher found out that the training program is successful in achieving its objectives as it teaches the foundations which it contained in respect of skills and knowledge (2).

An educational unit for the developing the girl students' creative skills in introducing new artistic treatments for recycling materials and using them in clothes accessories and trying to connect the curriculum with changes in society, which helps to activate the use and develop the different strategies and learning methods (3).

Through the study of scientific and practical bases for training workers in the field of apparel, a training program has been made which includes quality and production and the extent of the link between them with providing workers with the essential knowledge and information in the field of clothes. The program was effective in raising workers' skill and work and the final quality of the product (4) . There is no difference concerning the impact and the role of industrial security in the quantity and quality of the final product where there is a direct proportion between the workers' training and the provision of security against incidents inside the factory, which works to raise the morale of workers and thus their professional compatibility (5). The main purpose of the quality of the product is to provide the good clothing product regarding appearance and function and achieving the target of the components of safety, especially in the children's clothes since the failure to observe the necessary precautions for the safety of the child makes him liable to many problems that he cannot deal with because he is young (6).

The presence of small pieces such as a belt buckle may cause the child to attach to anything external or to suffocate him. Parts sticking out such as buttons or snap fasteners with pointed edges may hurt the child ⁽⁶⁾. The quality models existing in factories are among the important elements that provide information on basis of which development and improvement in the garments industry can be made (7).

Among the required quality stages in the garments industry is passing products, especially children's products, using tunnel metal detector is a must with children's garments to ensure it is metal objects free especially broken needles . This stage always takes place before packing as the presence of such things leads to reject the whole batch if the products are children's clothes ^(6,8, 9, 10,11). There are standard specifications for the classification of defects all over the world with which all the workers in the field of quality deal ⁽¹²⁾. The graduate is considered the future nucleus that we are all work to prepare to take over for the labor market. The garments is one of the disciplines that require experience and skill in the performance so that the person becomes eligible to work in this field. It was found through the questionnaire that the students of the clothes and textile and some graduates and Master's and PhD students do not have enough information on the inspection operations of clothes, when orders are accepted for export, when they are rejected and what are the standards to judge products whether clothing products or products used in the home, such as bed sheets and towels, etc. Hence, we have seen the importance of integration between specialists and professional information taken from the reality of the labor market and trying to explain all of this in the form of an educational program that benefits the student or any student about that kind of

quality and thus the problem of search was crystallized in an attempt to answer the following queries through the educational program:

1. What is the basis of inspection of garments and what is the basic classification of defects and their rating?
2. What is the right and wrong shape for some products?
3. What are the methods of sampling and determining of numbers of cartons and pieces of garments?
4. What are the defects of packing, components and terms?
5. What are the defects of buttonholes, buttons, belt loop, hems, collars and places of attaching the label?
6. What are the defects of sleeves, armholes, fabric, package, box and pockets?
7. How is the product inspected and what are the basic stages of inspection?
8. What are the most important forms the man in charge of inspection should have?
9. What is the Final Random Inspection and what is the final inspection report?

MATERIALS AND METHODS

First: Before starting to prepare the program, a questionnaire for students was developed to find out the extent of their knowledge of the names of defects by placing pictures (18) of defects and then they were classified according to defect rating, then the following statistical treatments were made before showing the search results.

- Constancy of students' questionnaire to determine their current level:

The aim of the questionnaire is to identify the knowledge base that students possess for inspection and garments quality. To ensure the constancy of the questionnaire, the internal consistency coefficient was calculated by the Alpha Cronbach formula. The results are shown in **Table 1**.

Table (1)

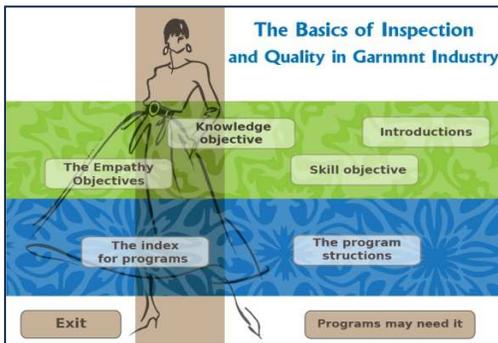
Questionnaire	Alpha Cronbach Constancy Coefficient
By assessing the students' level in identifying the defect or naming it and rating the defect	0.812

It is clear from the table (1) that the overall questionnaire constancy is 0.812 and thus questionnaire phrases are on a high level of consistency and are all significant.

Formulation of the Questionnaire in its Final Form:

The questionnaire was developed in its initial form, which consists of (17) pictures (a question of naming the defect and a question about classification of defect rating) and therefore the number of questions asked is (34) distributed on the pictures.

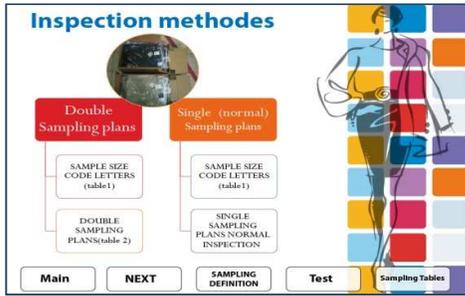
Second: preparing the program of scientific content, which allows to answer the research queries of previously mentioned, and we will show the basic screens for the program



Picture (1) The main screen in the which contain Introduction, Knowledge objective, Skills objective, The empathy objective, the program instruction and the index for program



Picture (2) The second screen in the program including seven sub-screen which considered basic for inspection



Picture (3) First sub-screen
Explaining inspection method in soft line and clarifying is the meaning of single and double sampling plan



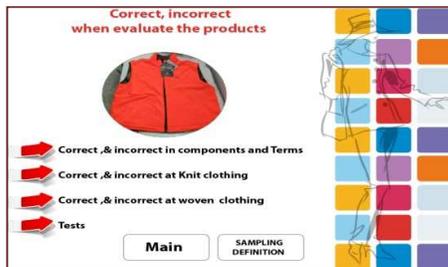
Picture (4) Second sub-screen
Including fourteen defect table which have the classification of defect and defect rate (Critical, Major, Minor)



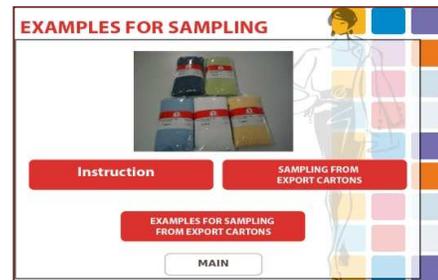
Picture (5) Third sub-screen
Contains links for the important paper in inspection such as specification, ship mark...etc



Picture (6) Fourth sub-screen
This screen clear that the steps of inspection by using photo album for inspection



Picture (7) Fifth sub-screen
Including some important point in final shape in the product



Picture (8) Sixth sub-screen
In this screen we learn how can we inspection any lot (batch size)



Picture (9) Seventh sub-screen
We show in this screen types of final report and the most important attachment

Program arbitration was made by workers involved in garments field, as well as academically by specialist professors in the field of garments and textiles to know quality the scientific content of the program is and its ability to achieve the desired aims when applied to students or any specialist in the field. Therefore, a special questionnaire was developed to determine the extent of the validity of the program in terms of technical, educational and software efficiency as well as efficiency of methodology. Internal consistency was made to test the cohesion of its items.

Table (2) shows the correlation coefficients between the scores of each phrase and the total score of the questionnaire.

phrases	Pearson correlation	Sig (2-tailed)	phrases	Pearson correlation	Sig (2-tailed)	phrases	Pearson correlation	Sig (2-tailed)
1	0.211**	0.000	22	0.497**	0.000	43	0.841**	0.000
2	0.148**	0.000	23	0.824**	0.000	44	0.844**	0.000
3	0.161**	0.000	24	0.771**	0.000	45	0.803**	0.000
4	0.143**	0.000	25	0.563**	0.000	46	0.867**	0.000
5	0.455**	0.000	26	0.667**	0.000	47	0.879**	0.000
6	0.428**	0.000	27	0.796**	0.000	48	0.590**	0.000
7	0.437**	0.000	28	0.872**	0.000	49	0.781**	0.000
8	0.410**	0.000	29	0.828**	0.000	50	0.851**	0.000
9	0.486**	0.000	30	0.867**	0.000	51	0.767**	0.000
10	0.490**	0.000	31	0.436**	0.000	52	0.765**	0.000
11	0.395**	0.000	32	0.880**	0.000	53	0.688**	0.000
12	0.694**	0.000	33	0.564**	0.000	54	0.579**	0.000
13	0.585**	0.000	34	0.891**	0.000	55	0.882**	0.000
14	0.687**	0.000	35	0.562**	0.000	56	0.895**	0.000
15	0.664**	0.000	36	0.886**	0.000	57	0.907**	0.000
16	0.656**	0.000	37	0.867**	0.000	58	0.905**	0.000
17	0.633**	0.000	38	0.836**	0.000	59	0.923**	0.000
18	0.568**	0.003	39	0.919**	0.000	60	0.919**	0.000
19	0.631**	0.000	40	0.898**	0.000	61	0.920**	0.000
20	0.574**	0.000	41	0.910**	0.000	62	0.920**	0.000
21	0.697**	0.000	42	0.862**	0.000			

It is clear from the table that all the questionnaire phrases have a statistically significant relationship with the total score of the questionnaire where the correlation coefficients ranged from (0.923 **), (0.143 **), all of which are significant at level (0.01) and therefore the questionnaire phrases are coherent indicating internal consistency of the questionnaire; the questionnaire measure what it was intended for.

Table (3) shows the correlation coefficients between the scores of each phrase and the total score of the axis to which the phrase belong

phrases	Pearson correlation	Sig (2-tailed)	phrases	Pearson correlation	Sig (2-tailed)	phrases	Pearson correlation	Sig (2-tailed)
Axis I			22	0.836**	0.000	45	0.929**	0.000
1	0.672**	0.000	23	0.834**	0.000	46	0.934**	0.000
2	0.829**	0.000	24	0.785**	0.000	47	0.883**	0.000
3	0.909**	0.000	25	0.691**	0.000	48	0.937**	0.000
4	0.905**	0.000	26	0.982**	0.000	49	0.909**	0.000
5	0.871**	0.000	27	0.891**	0.000	50	0.945**	0.000
6	0.920**	0.000	Axis IV			51	0.963**	0.000
7	0.571**	0.000	28	0.952**	0.000	52	0.966**	0.000
8	0.919**	0.000	29	0.968**	0.000	53	0.964**	0.000
9	0.569**	0.000	30	0.968**	0.000	54	0.880**	0.000
10	0.928**	0.000	31	0.980**	0.000	55	0.762**	0.000
Axis II			32	0.979**	0.000	56	0.908**	0.000
11	0.813**	0.000	33	0.973**	0.000	57	0.779**	0.000
12	0.793**	0.000	34	0.975**	0.000	58	0.810**	0.000
13	0.921**	0.000	35	0.915**	0.000	59	0.727**	0.000
14	0.912**	0.000	36	0.977**	0.000	60	0.879**	0.000
15	0.909**	0.000	37	0.727**	0.000	61	0.914**	0.000
16	0.884**	0.000	38	0.789**	0.000	62	0.813**	0.000
17	0.904**	0.000	39	0.809**	0.000			
18	0.913**	0.000	40	0.783**	0.000			
Axis III			41	0.872**	0.000			
19	0.698**	0.000	42	0.905**	0.000			
20	0.843**	0.000	43	0.932**	0.000			
21	0.897**	0.000	44	0.913**	0.000			

RESULT and DESCISION

• Results for the first hypothesis and its interpretation:

The First Hypothesis: "The level of the information base is low for defect classification (naming the defect) for the students."

Table (4) shows the likely average, percent average and the standard deviation for the information base of the defect classification (naming the defect) for the students

No	Photo ID	Indicators' level		Total Weights	Likely Average	Standard Deviation	Average Percentage (Quality Coefficient)	The level of information
		Right	Error					
1	Picture (1)	20	11	20	0.65	0.49	65%	Right
2	Picture (2)	27	4	27	0.87	0.34	87%	Right
3	Picture (3)	3	28	3	0.10	0.30	10%	Error
4	Picture (4)	1	30	1	0.03	0.18	3%	Error
5	Picture (5)	5	26	5	0.16	0.37	16%	Error
6	Picture (6)	15	16	15	0.48	0.51	48%	Error
7	Picture (7)	10	21	10	0.32	0.48	32%	Error
8	Picture (8)	6	25	6	0.19	0.40	19%	Error
9	Picture (9)	24	7	24	0.77	0.43	77%	Right
10	Picture (10)	8	23	8	0.26	0.44	26%	Error
11	Picture (11)	7	24	7	0.23	0.43	23%	Error
12	Picture (12)	13	18	13	0.42	0.50	42%	Error
13	Picture (13)	0	31	0	0.00	0.00	0%	Error
14	Picture (14)	16	15	16	0.52	0.51	52%	Right
15	Picture (15)	21	10	21	0.68	0.48	68%	Right
16	Picture (16)	29	2	29	0.94	0.25	94%	Right
17	Picture (17)	0	31	0	0.00	0.00	0%	Error
Total		205	322	205	0.39	0.36	39%	Error

The previous table shows:

- The total student responses about information classification (naming the defect) are (Error) located at level (low) with likely average (0.39) and likely percent average (39%) indicating that the level of information for students to name the defects is low.

• Results for the second hypothesis and its interpretation

The Second hypothesis:

"The level of the information base is low for classification of defect rating for the students."

Table (5) shows the likely average, percent average and the standard deviation for the information base of classification of defect rating for the students

No	Photo ID	Indicators' level		Total Weights	Likely Average	Standard Deviation	Average Percentage (Quality Coefficient)	The level of information
		Right	Error					
1	Picture (1)	22	9	22	0.71	0.46	71%	Right
2	Picture (2)	12	19	12	0.39	0.50	39%	Error
3	Picture (3)	13	18	13	0.42	0.50	42%	Error
4	Picture (4)	24	7	24	0.77	0.43	77%	Right
5	Picture (5)	16	15	16	0.52	0.51	52%	Right
6	Picture (6)	23	8	23	0.74	0.44	74%	Right
7	Picture (7)	18	13	18	0.58	0.50	58%	Right
8	Picture (8)	8	23	8	0.26	0.44	26%	Error
9	Picture (9)	25	6	25	0.81	0.40	81%	Right
10	Picture (10)	4	27	4	0.13	0.34	13%	Error
11	Picture (11)	23	8	23	0.74	0.44	74%	Right
12	Picture (12)	21	10	21	0.68	0.48	68%	Right
13	Picture (13)	6	25	6	0.19	0.40	19%	Error
14	Picture (14)	21	10	21	0.68	0.48	68%	Right
15	Picture (15)	5	26	5	0.16	0.37	16%	Error
16	Picture (16)	7	24	7	0.23	0.43	23%	Error
17	Picture (17)	7	24	7	0.23	0.43	23%	Error
Total		255	272	255	0.48	0.44	48%	Error

The previous table shows:

- The total student responses about information of classification of defect rating are (Error) located at level (low) with likely average (0.48) and percent average (48%) indicating that the level of information for students to classify defect rating is low.

• Results for the third hypothesis and its interpretation

The Third hypothesis:

"The high level of the program quality in terms of technical efficiency."

Table (6) shows the likely average and likely percent average (quality coefficients) of the program in terms of technical efficiency

No	Axis I	Indicators' level			Total Weights	Likely Average	Standard Deviation	Average Percentage (Quality Coefficient)	The quality level
		Appropriate	Somehow appropriate	Inappropriate					
1	spaces are proportionate in the program screens	14	1	0	44	2.93	0.26	97.7%	Appropriate
2	diversity in frameworks and display backgrounds	13	2	0	43	2.87	0.35	95.7%	Appropriate
3	color matching between all parts of the screens	13	2	0	43	2.87	0.35	95.7%	Appropriate
4	clarity of data which accompanies images and figures	13	2	0	43	2.87	0.35	95.7%	Appropriate
5	sound audibility in the program	11	4	0	41	2.73	0.46	91%	Appropriate
6	distribution of the elements of the screens (writings /images /colors) in a sound manner	13	2	0	43	2.87	0.35	95.7%	Appropriate
7	contents of the screen allow freedom of eye movement	13	2	0	43	2.87	0.35	95.7%	Appropriate
8	clarity of writing style in terms of font, size and color	12	3	0	42	2.80	0.41	93.3%	Appropriate
9	innovation in the software level	15	0	0	45	3.00	0.00	100%	Appropriate
10	easy movement between the main screen and other sub-screens	15	0	0	45	3.00	0.00	100%	Appropriate
The Technical Efficiency of the Program		132	18	0	432	2.88	0.29	96.03%	Appropriate

The arbitrators' responses on the evaluation of the first axis (technical efficiency) of the program are high where the phrases got averages ranged between (3, 2.73) and a standard deviation between (0, 0.46). The responses received high percentages ranged between (100%) for phrases (9,10) (91%) for phrase (5). All ratios mean approving the validity of the program in terms of technical efficiency to a large extent. The overall proportion of the responses of the arbitrators on the validity of the program is (96.03%) which it is located in a convenient degree in terms of technical efficiency based on trilateral gradation of the likely weight.

Results for the fourth hypothesis and its interpretation

The Fourth hypothesis:

"The high level of the program quality in terms of educational efficiency". .

Table (7) shows the likely average and likely percent average (quality coefficients) of the program in terms of educational efficiency

No	Axis II	Indicators' level			Total Weights	Likely Average	Standard Deviation	Average Percentage (Quality Coefficient)	The quality level
		Appropriate	Somehow appropriate	Inappropriate					
1	clarity of the overall objective of the program	15	0	0	45	3.00	0.00	100%	Appropriate
2	scientific content is easy to understand and free from mysterious phrases	13	2	0	43	2.87	0.35	95.7%	Appropriate
3	match between the goal of the program and content	11	4	0	41	2.73	0.46	91%	Appropriate
4	correct wording of the language of the program content	12	3	0	42	2.80	0.41	93.3%	Appropriate
5	logical sequence of the program content	12	3	0	42	2.80	0.41	93.3%	Appropriate
6	non-repetition of parts of the program content	12	3	0	42	2.80	0.41	93.3%	Appropriate
7	coordination between the objectives	12	3	0	42	2.80	0.41	93.3%	Appropriate
8	effectiveness of the program as an educational program	15	0	0	45	3.00	0.00	100%	Appropriate
Educational Efficiency		102	18	0	342	2.9	0.3	95%	Appropriate

It is clear from Table (7)

The arbitrators' responses on the evaluation of the second axis (educational efficiency) of the program are high where the phrases got averages ranged between (3, 2.73) and a standard deviation between (0, 0.46). The responses received high percentages ranged between (100%) for phrases (1, 8) and (91%) for phrase (3). All ratios mean approving the validity of the program in terms of educational efficiency. The overall proportion of the responses of the arbitrators on the validity of the program is (95%) which it is located in a convenient level in terms of educational efficiency based on trilateral gradation of the likely weight.

• Results for the fifth hypothesis and its interpretation

The Fifth hypothesis: "The high level of the program quality in terms of software efficiency."

Table (8) shows the likely average and likely percent average (quality coefficients) of the program in terms of software efficiency

No	Axis III	Indicators' level			Total Weights	Likely Average	Standard Deviation	Average Percentage (Quality Coefficient)	The quality level
		Appropriate	Somehow appropriate	Inappropriate					
1	the program is working properly without errors	15	0	0	45	3.00	0	100%	Appropriate
2	the program is free from mistakes of redundancy	15	0	0	45	3.00	0	100%	Appropriate
3	instructions to use are clear, simple and concise	12	3	0	42	2.80	0.41	93.3%	Appropriate
4	easy navigation between screens using the buttons	11	4	0	41	2.73	0.46	91%	Appropriate
5	program close disables the user to change the scientific content	15	0	0	45	3.00	0	100%	Appropriate
6	the possibility of downloading software to easily	13	2	0	43	2.87	0.35	95.7%	Appropriate
7	control of sound play or close	13	2	0	43	2.87	0.35	95.7%	Appropriate
8	the program can be run easily	13	2	0	43	2.87	0.35	95.7%	Appropriate
9	interesting style of presentation	15	0	0	45	3.00	0	100%	Appropriate
The Software Efficiency		122	13	0	392	2.90	0.21	96.81%	Appropriate

It is clear from Table (8)

The arbitrators' responses on the evaluation of the third axis (software efficiency) of the program are high where the phrases got with averages ranged between (3, 2.73) and a standard deviation between (0, 0.46). The responses received high percentages ranged between (100%) for phrases (1, 2, 5, 9) and (91%) for phrase (4). All ratios mean approving the validity of the program to a large extent in terms of software efficiency. The overall proportion of the responses of the arbitrators on the validity of the program is (96.81%) which it is located in a convenient level in terms of software efficiency based on trilateral gradation of the likely weight.

• Results for the sixth hypothesis and its interpretation

The Sixth hypothesis:

"The high level of the program quality in terms of methodology efficiency." .

Table (9) likely average and likely percent average (quality coefficients) of the program in terms of methodology efficiency

No	Axis IV	Indicators' level			Total Weights	Likely Average	Standard Deviation	Average Percentage (Quality Coefficient)	The quality level
		Appropriate	Somehow appropriate	Inappropriate					
1	Methods for inspection	15	0	0	45	3	0	100%	Appropriate
2	Inspection level	15	0	0	45	3	0	100%	Appropriate
3	Recognize on statistical samples	15	0	0	45	3	0	100%	Appropriate
4	Recognize on tables for single sampling	15	0	0	45	3	0	100%	Appropriate
5	Recognize on tables for double sampling	15	0	0	45	3	0	100%	Appropriate
6	The number of sample at any type of inspection	15	0	0	45	3	0	100%	Appropriate
7	The important of defect classification	15	0	0	45	3	0	100%	Appropriate
8	AQL/RQL of samples in inspection level	14	1	0	44	2.93	0.26	97.7%	Appropriate
9	When we do the Double sampling inspection	14	1	0	44	2.93	0.26	97.7%	Appropriate
10	Recognize of defect table	13	2	0	43	2.87	0.35	95.7%	Appropriate
11	The defect classification & defect rate	13	2	0	43	2.87	0.35	95.7%	Appropriate
12	The classification of fabric defect	13	2	0	43	2.87	0.35	95.7%	Appropriate
13	The classification of package& box	14	1	0	44	2.93	0.26	97.7%	Appropriate
14	The classification of Master carton& inner carton	14	1	0	44	2.93	0.26	97.7%	Appropriate
15	The classification of sleeves, hem, pockets, attachment collar	14	1	0	44	2.93	0.26	97.7%	Appropriate
16	The classification of Belt loops, threads, & construction	13	2	0	43	2.87	0.35	95.7%	Appropriate
17	The classification of Stitching , buttons and buttonhole	13	2	0	43	2.87	0.35	95.7%	Appropriate
18	Paper for (specification)	15	0	0	45	3	0	100%	Appropriate
19	Paper for (Ship mark)	15	0	0	45	3	0	100%	Appropriate
20	Paper for (Packing information)	15	0	0	45	3	0	100%	Appropriate
21	What is Packing list ?	15	0	0	45	3	0	100%	Appropriate
22	How to extract the required samples for INSPECTION of the LOT	14	1	0	44	2.93	0.26	97.7%	Appropriate
23	The extent of clarity of a sample which required to be inspected	13	2	0	43	2.87	0.35	95.7%	Appropriate
24	The type and level for inspection	13	2	0	43	2.87	0.35	95.7%	Appropriate
25	The relationship between type and level inspection	14	1	0	44	2.93	0.26	97.7%	Appropriate
26	How can we calculate the number of samples we need to inspection	13	2	0	43	2.87	0.35	95.7%	Appropriate

27	Requirements to be considered when samples inspection	14	1	0	44	2.93	0.26	97.7%	Appropriate
28	The importance of packing & ratio at inspection	13	2	0	43	2.87	0.35	95.7%	Appropriate
29	The important of inspection report	15	0	0	45	3	0	100%	Appropriate
30	The basic elements contained in inspection report	15	0	0	45	3	0	100%	Appropriate
31	Determine the defect which found in inspection at the final report	14	1	0	44	2.93	0.26	97.7%	Appropriate
32	Determine the data of factory and the product	14	1	0	44	2.93	0.26	97.7%	Appropriate
33	Determine the data of packing which found in the product	14	1	0	44	2.93	0.26	97.7%	Appropriate
34	The comparison between measurements table & samples	14	1	0	44	2.93	0.26	97.7%	Appropriate
35	The ID. For inspector	15	0	0	45	3	0	100%	Appropriate
Methodology efficiency		495	30	0	1545	2.94	0.18	98.09%	Appropriate

It is clear from Table (10):

The arbitrators' responses on the evaluation of the fourth axis (methodology efficiency) of the program are high where the phrases got averages ranged between (3, 2.87) and a standard deviation between (0, 0.35). The responses received high percentages ranged between (100% , 95.7%). All ratios mean approving the validity of the program to a large extent in terms of methodology efficiency. The overall proportion of the responses of the arbitrators on the validity of the program is (98.09%) which it is located in a convenient level in terms of efficiency methodology based on the trilateral gradation of the likely weight.

Results for the seventh hypothesis and its interpretation

The Seventh hypothesis:

"The high level of quality of the educational program."

Table (10) shows the likely average and likely percent average (quality coefficient) of the program for the educational program

No	The program	Indicators' level			Total Weights	Likely Average	Standard Deviation	Average Percentage (Quality Coefficient)	The quality level
		Appropriate	Somehow appropriate	Inappropriate					
1	Technical efficiency	132	18	0	432	2.88	0.29	96.03%	Appropriate
2	Educational efficiency	102	18	0	342	2.90	0.30	95%	Appropriate
3	Software efficiency	122	13	0	392	2.90	0.21	96.81%	Appropriate
4	Methodology efficiency	495	30	0	1545	2.94	0.18	98.09%	Appropriate
Educational program		851	79	0	2711	2.905	0.245	96.5%	Appropriate

The arbitrators' responses on the evaluation of the educational program are high where the axes got averages ranged between (2.94, 2.88) and a standard deviation between (0.18, 0.30). The axes got high percentages ranged from (98.09%, 95%). All ratios mean approving the validity of the program as a whole to a large extent. The overall proportion of the responses of the arbitrators on the validity of the educational program is (96.5%) which it is located in a convenient level in terms of the trilateral gradation of the likely weight.

Conclusion:

1. The low-level of information among students about naming the defect where the total student responses about naming defect was located at level (ERROR) and the same result was found out for the classification of the defect rating.
2. The total proportion of the validity of the program in terms of technical efficiency (96.03%), the validity of the program in terms of educational efficiency (95%), software efficiency is (96.81%), the methodology of efficiency is (95.7%) and the validity of the program in general is (98.09%).

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