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The Degree of Availability and Utility of Equipments and resources of Pre- Vocational Education Workshops in Irbid Schools from Teachers Perspective

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Abstract
This study aims at exploring The Availability and Utility of Equipments and Supplies of Pre-Vocational Education Workshops in the Schools of Irbid governorate From Teachers Perspective, A questionnaire was used as a method of gathering data. The questionnaire included a list of all the necessary equipments and instruction aids, for pre- vocational education workshops in the General Education stage from 1st to 10th classes . This list covered five engineering domains: agricultural, equipments associated with sewing , weaving, health and public safety. The sample of the study consisted of (121) pre-Vocational Education teachers who were selected through the method of comprehensive survey to the community of the study in Irbid governorate. After gathering the data and statistically analyzed , results showed a low, as well as, insufficient availability and utility of the pre-vocational equipments and instructional aids associated with pre-vocational education workshops in the five domains covered by the study. The domain of engineering came to be more prominent in male schools and the domain of sewing and weaving in female schools. Researchers provided some recommendations in the light of this study : conducting an extensive study to compile the needs of pre-vocational education workshops concerning equipments advised by pre-Vocational Education teachers as necessary to these workshops, and conducting studies about the obstacles of the supply of the equipments and tools of the workshops of pre-vocational education to process them and find suitable alternatives, and working on creating a separate budget for the workshops of pre-vocational education to gradually guarantee the availability of necessary equipments and instructional aids so that all needs are available within convenient time frame.
Keywords: Pre- Vocational Education equipments, Pre- Vocational Education workshops, Pre- Vocational Education Instructional Aids, Pre- Vocational Education Teachers

Introduction

The principle of pre-vocational education is considered one of the modern educational principles for enhancing general education. This principle is also considered the cornerstone of developing the attitude of the students toward vocational education as well as qualifying the student to deal appropriately and effectively with his school and community.

The subjects of pre-vocational education were designed in a way that enhances the student's understanding of the different roles he will have in life and guides him to make decision of his future profession in accordance with his preferences and desire.

Teaching the field of pre-vocational education is considered one of the most important aspects of general education; the students study various vocational domains throughout this educational stage which helps them to discover their potentials and preferences and makes them acquire practical skills of benefit to themselves and their families (Nasr Allah, 1993). This education also participates in enhancing the scientific and realistic sense of the student and his ability to solve problems, and it helps the student to realize the value of vocational work and its importance in developing a proper personal attitude of profession and positive attitudes of the student towards handwork and respecting and appreciating workers (Batanya, 1996).

Pre-vocational education programs as a part of general education from 1st to 10th classes covers various vocational domains throughout to be in accordance with the growth of students and the other subjects they study. That all, to assure the highest degree of compatibility and harmony. It includes health domains, nutrition, public safety and traffic education. And it also includes agricultural domains, electricity, mechanics, ,commerce which provide student with life skills.

Pre-vocation teachers receive training to teach the domains through the specialized curriculum conducted by either community colleges or universities. The ministry of education also qualifies teachers vocationally through various training courses which participate in providing the teacher with important and necessary skills to teach vocational education in an appropriate manner. And this leads to fulfilling the expected goals.

Pre-Vocational education is considered one of the fields that requires the use of tools, equipment workshops and instructional aides which, in return, help in increasing the students' positive participation in acquiring the needed experiences and skills, and developing positive attitudes. That also helps in providing better education to students of all age levels, it saves effort in teaching, and helps in enhancing the sensory perception

and comprehension of students.

Pre-Vocational education represents a fertile and expansive ground for using educational media. Furthermore, teaching Pre-Vocational education curricula may not be effective without using educational media (Abd El-Razik, 2006). Therefore, educational media make the education process faster, deeper, more beneficial and of a long-lasting effect since practical experience of events and direct interaction with the experience itself provide the student of sensory as well as practical first-hand experience which cannot be acquired through the theoretical explanation of the subject.

Edgar Dale (1954) arranged, in his book Audio Visual Methods in Teaching, educational media in a hierarchy that he called "The experience hierarchy". In the hierarchy Edgar arranged media starting with direct purposeful sensory experiences at the bottom of the hierarchy and ending with abstract articulation symbols at the top of it, (Kazem and Gabber, 2007).

The ministry of education arranges for Pre-vocational education workshops in every school through its developmental projects and plans. And it works on equipping these workshops with all necessary equipments, media and supplies. The workshops differ in size depending on the location school and the number of students.

The official decuments of the minister of education No. 613/2490 refers to the normative list of the equipments of pre-vocational education workshops for the year 2009/2010. The list includes 135 items that represent necessary media, tools, devices and equipments for the domains of domestic agriculture, and industry. In addition of 18 basic items which are important to the field of vocational education. The list also refers to the activities mentioned in curricula of pre-vocational education for the first four grades. The activities can be applied in classroom with simple materials that can be bought with school donations. And schools that have grades starting from the fifth to the 7th need all tools, materials mentioned in the normative list. As for schools that have the 8th, 9th and 10th grades choose one or more of the following five domains of vocational education: agricultural, industrial, commercial, domestic agriculture, health and public safety.

Previous studies

The study of (Sabawy 2010) aimed at exploring the availability and application of educational media and equipments as well as the obstacles that challenge using them in secondary schools that fall under the directorate of education of Nineveh in Iraq. The researcher found out that materials and equipments exist in different percentages, materials and equipments that are more available and used are the traditional ones, and the least available and used are modern equipments.

The study of (Twalbeh 2005) aimed at exploring the actual situation of educational media in teaching the field of vocational education to the upper basic stage and its degree of use by vocational education teachers. The researcher found out that there is shortage in the materials and equipments of vocational education workshops in general and a decrease in using educational media by vocational education teachers.

The study of (Amawy 2003) aimed at exploring the actual situation of education techniques and the obstacles that challenge their application in basic education schools situated in Irbid governorate. Results demonstrated that tools and materials that are mostly used in schools are old in addition of shortage in modern devices and materials.

The study of (Beni Esmail 2000) aimed at exploring the actual situation of educational media in teaching the curricula of vocational education for upper basic education from the perspective of teachers in Ajloun governorate. The results of the study demonstrated the shortage of necessary materials and equipments and the decrease of using them by teachers. The reason is the teachers lacked sufficient experience of using available materials and workshops and to avoid extra work.

The study of (Lin 1996), Texas, USA, aimed at knowing the actual situation of the use of educational media by educators in selected community colleges in the State of Texas. Results demonstrated that teachers prefer using traditional educational media rather using modern materials and techniques and also that classroom materials and devices are in strong need of renewal and renovation.

The study of (Fagbemi 1995) aimed at knowing the availability and application of educational media in Kwara and Kogi States secondary schools, Nigeria. Results demonstrated a shortage in the availability of educational media and equipments in all schools and a decrease in the number of teachers in the training courses of educational media. Results showed that 62% of the sample people didn't receive any training at using educational media.

The study of (White 1993) aimed at exploring the availability and application of educational media in classroom at teaching the subject of world geography. The study sample contained 24 from the State of Texas. Results showed a deficit in training teachers at using educational media and most of available media is old and traditional.

The study of (Al-Fraihat 1993) aimed at evaluating vocational training in Jordan. The researcher concluded that following up with the development and innovation of equipments and devices needed in vocational education in Jordan are of vital importance.

problem statement

Teaching the field of pre-vocational education is considered one of the most important aspects of development for the basic education stage (General Education). Students will have to choose their future track in agreement with their potentials and preferences and, consequentially, the type of secondary education that suits them. Also, the vocational education programs is considered one of the programs that definitely need teaching media and vocational workshops which are available in the majority of Jordan schools.

This study came to clearly define the availability of the needed media and equipments in Irbid governorate schools as well as defining their application and use by both teachers and students which provides a powerful and necessary resource for those who are in charge of supervising and developing the field of vocational education, and will help to take necessary steps and decisions to improve this field and deal with the deficient areas if found.

Study Questions:

1.How available are the media and equipments associated with pre-vocational education workshops on Irbid governorate schools?

2. What is the degree of teachers utilization of available teaching media and pre-vocational equipments in teaching?

Importance of the study

The importance of the study is derived from the belief of the importance of teaching media and vocational equipments. for the sake of improving vocational growth and the performance of vocational education teachers. It enables them to adapt with new educational updates and employ the technological findings to enrich education. media also helps teachers to conduct vocational teaching and training successfully and effectively, it provides students with necessary vocational skills and development to grow properly in their vocations.

study limitation

The study was exclusive to the pre-vocational education teachers in Irbid governorate schools including all its seven directorates for the acadimic year 2011/2012, the 2nd semester. And, in the light of this limitations, no generalization for the results can take effect unless it's within the scope of the study.

Operational Definitions

Pre-Vocational education teacher: He is a person recruited by the ministry of education of Jordan to be in charge of all the aspects of the education process in the field of vocational education and activity.

Pre-Vocational education workshop: It's a classroom equipped with all tools, equipments and media that are needed by teachers and students during vocational education lessons.

study procedure

Study Methodology: Descriptive survey method was adopted because of its convenience to the nature of the study.

Study Population: The population of the study consisted of all the teachers of pre-vocational education in Irbid governorate including all its seven directorates for the academic year 2011/2012, 2nd semester

Sample of Study

The Sample of Study consisted of 121 teachers who were selected by the comprehensive survey of the population of the study.

Table (1) demonstrates the distribution of the study sample according to the variable of gender.

Table (1)

The distribution of the study sample according to the variable of gender

Gender	Frequency	Percentage
Male	62	51.2
Female	59	48.8
Total	121	100

Table (1) shows that the percentage of males is (51.2%) while females (48.8%) from the study sample.

Instruments of the study:

Researchers has reviewed the theoretical literature associated with the topic of study and formulated a group of items to measure the degree of availability and utilization of vocational resources and equipments associated with pre-vocational education workshops in Irbid governorate schools.

The questionnaire initially consisted of two sections. The first section covered items that measure the degree of availability of vocational equipments and resources associated with pre-vocational education workshops. And the second section covered items that measure the degree of use of available vocational equipments and resources by teachers.

After the referee procedures of the questionnaire and applying it to the exploratory sample, some items were amended. The final contents of the questionnaire came to be consisted of two sections, each section included (93) items distributed over four domains. These are: the domain of equipments associated with the agricultural sciences which includes (28) items, the domain of equipments associated with applying the engineering sector which includes (32) items, the domain of equipments associated with the sewing and weaving sector which includes (23) items, the domain of equipments associated with the health and public hygiene sector which includes (10) items. The first section measures the availability degree of resources and equipments associated with vocational education workshops, while the second section measures the degree of use of available vocational media and equipments and resources by teachers.

The reliability of the study tool: The study tool was examined by a group of specialists in the field of vocational education for the sake of ensuring the reliability of the tool. They were asked to give their opinions and recommendations concerning the reliability of the tool to measure the proposed objectives. The questionnaire was amended in accordance with the recommendations of the referees and the objectives of the study. The tool was also applied on an exploratory sample consisting of 20 male and female teachers who were excluded from the sample of the study to ensure reliability of the tool in terms of application and estimating errors that may occur during the actual application of the study. The tool was reapplied on the exploratory sample after about two weeks to ensure its stability.

The consistency of the tool: The tool was applied on an exploratory sample consisting of 20 male and female teachers twice with about two week time interval to ensure the consistency of the tool. Pearson correlation coefficient was assessed on both applications for all domains and the tool as well as Cronbach's alpha. Results showed that all the domains of the tool have a great degree of consistency and that it's convenient for the objectives of the study. Table (2) demonstrates that.

Table (2)
Reliability coefficients through the method of Cronbach's alpha and test-retest reliability for all the domains of the study and the tool

Test-retest reliability coefficient	The value of Cronbach's alpha	Domain
0.88	0.92	The availability of equipments associated with agricultural sciences
0.83	0.96	The availability of equipments associated with applying the engineering sector
0.79	0.60	The availability of equipments associated with applying the sewing and weaving sector
0.85	0.81	The availability of equipments associated with applying the sector of health and public hygiene
0.89	**0.87**	**The overall availability**
0.81	0.88	The degree of use for equipments associated with agricultural sciences
0.84	0.93	The degree of use for equipments associated with applying the engineering sector
0.88	0.82	The degree of use for equipments associated with applying the sewing and weaving sector
0.86	0.80	The degree of use for equipments associated with applying the sector of health and public hygiene
0.92	**0.90**	**The overall degree of use**

Table (2) demonstrates that all stability values in the method of Cronbach's alpha for the availability of resources and equipments in vocational education workshops were acceptable for the objectives of applying the study. The most prominent values belong to the domain (The availability of equipments associated with applying the engineering sector) which is (0.96), followed by the domain (The availability of equipments associated with the agricultural sciences sector) which is (0.92), then followed by the domain (The availability of equipments associated with applying the sector of health and public hygiene) which is (0.81) and the least (0.60) belong to the domain (The availability of equipments associated with applying the sewing and weaving sector). The overall stability coefficient is (0.87) which is a very high stability indicator of the study.

Table (2) also demonstrates that all stability values in the method of Cronbach's alpha for the use of available vocational resources and equipments by teachers were acceptable for the objectives of applying the study. The most prominent values belong to the domain (The degree of use for equipments associated with applying the engineering sector) which is (0.93), followed by the domain (The degree of use for equipments associated with the agricultural sciences sector) which is (0.88), then followed by the domain (The degree of use

for equipments associated with applying the sewing and weaving sector) which is (0.82), and the least belong to the domain (The degree of use for equipments associated with applying the sector of health and public hygiene) which was estimated (0.80). The overall stability coefficient is (0.90) which is a very high stability indicator of the stability of the study.

As for Test-retest reliability coefficient values, the most prominent are the domains of (The availability of equipments associated with agricultural sciences) and (The degree of use for equipments associated with applying the sewing and weaving sector) which is (0.88). The overall degree of use stability coefficient is (0.89), and the overall degree of use (0.92). And these indicators prove high stability and consistency of applying the study objectives.

Statistical Analyses

Statistical Package for Social Science (SPSS) software was used to treat data and answer the questions of the study, and the following statistical methods were used:

- Answering the first question of the study, frequency rates and percentages of the availability of media and equipments associated with vocational education workshops were estimated.
- Answering the second question, arithmetic means and standard deviations of the degree of use of available vocational resources and equipments by teachers were calculated.

Pearson correlation coefficient and Cronbach's alpha were applied to ensure the reliability and consistency of the study tool.

Interpretation of results

This section of the study deals with viewing and discussing the results of the study in accordance with the questions of the study:

The first question: How available are the media and equipments associated with pre-vocational education workshops on Irbid governorate schools?

Answering the first question of the study, frequency rates and percentages of the availability of resources and equipments associated with pre-vocational education workshops were estimated.

The availability of equipments associated with agricultural sciences:

Table (3)

Frequency rates and percentages of the availability of equipments associated with agricultural sciences

The Degree of Availability			
No.	**Equipments associated applying the sector of agricultural sciences**	**Freq.**	**Percent.**
1	Tools for loosening the earth (spading fork, hoe, spade, rake)	108	89.3
2	Soil cultivation machinery (tractors and such)	-	-
3	Fruitful and fruitless trees	83	68.6
4	Pruning tools (trees scissors)	96	79.3
5	Tree grafting tools (knife, scrolls)	64	52.9
6	Tools for planting household plants	88	72.7
7	Materials for planting household plants (household plants, seeds of household plants)	58	47.9
8	Materials for planting school gardens (trees, earth expanses)	67	55.4
9	Work tables	67	55.4
10	Gas stove	76	62.8
11	Refrigerator with a freezer	63	52.1
12	Machines for cooking	27	22.3
13	Pots	60	49.6
14	Trays	55	45.5
15	Plats	60	49.6
16	Pans	48	39.7
17	Vegetable mincers	57	47.1
18	Knifes	68	56.2
19	Spoons and knifes	53	43.8
20	Food supplies	18	14.9
21	Oils	26	21.5
22	Spices	33	27.3
23	Evacuee	75	62.0
24	Cleaning materials	61	50.4
25	Dining table	25	20.7
26	Cleaning towels	72	59.5
27	Kitchen tables	68	56.2
28	Kitchen oven	67	55.4

Table (3) demonstrates that the highest percentage of agricultural equipments availability is (89.3) which item (1) "Tools for loosening the earth (spading fork, hoe, spade, rake)", followed by item (4) that has percentage of (79.3) which is " Pruning tools (trees scissors)", followed by item (6) that has percentage of (72.7)

which belongs to " Tools for planting household plants", while item (2) " Soil cultivation machinery (tractors and such)" isn't available at all.

All the mentioned results are consistent with the study of Sabawy (2010) which aimed at exploring the availability and application of educational media and equipments as well as the obstacles that challenge using them in secondary schools that fall under the directorate of education of Nineveh in Iraq. The researcher found out that materials and equipments exist in different percentages, that materials and equipments that are more available and used are the traditional ones, and the least available and used are modern equipments. They were also consistent with the study of White (1993) that was conducted in the State of Texas and demonstrated that most of available media in school is old and traditional.

The availability of equipments belonging with applying the engineering sector:

Table (4)

Frequency rates and percentages of the availability of equipments associated with applying the engineering sector

The Degree of Availability			
No.	**Equipments associated with applying the engineering sector**	**Freq.**	**Percent.**
1	Volt-meter	31	25.6
2	Ampere-meter	21	17.6
3	Electrical Resistance	13	10.7
4	Voltage tester	92	76.0
5	Various screwdrivers	105	86.8
6	Gripping and tightening tools	77	63.6
7	Electrical wires	68	56.2
8	Electrical sockets	55	45.5
9	Electrical switches	56	46.3
10	Wooden boards	42	34.7
11	Wire fitting tool	46	38.0
12	Various files	76	62.8
13	Hacksaw	74	61.2
14	Electrical Iron saw	33	27.3
15	Drawing tools on the tin	47	38.8
16	Electrical Tin Scissor	18	14.9
17	Deep drawing tools	37	30.6
18	Vise	70	57.9
19	Work table	74	61.2
20	Welding Machine	53	43.8
21	Metals sheets of various thicknesses	13	10.7
22	Iron of various measures	25	20.7
23	Welding wires	61	50.4
24	Various files	67	55.4
25	Hacksaw	68	56.2
26	Handsaw	67	55.4
27	Electric wood saw	32	26.4
28	Various types of wood	49	40.5
29	Hammers of various weights	77	63.6
30	Nails of various sizes	62	51.2
31	Screws of various sizes	47	38.8
32	Glue	50	41.3

Table (4) demonstrates that the highest availability percentage of equipment associated with applying the engineering sector is (86.6) in item (5) which is "Various screwdrivers", followed by item (4) "Gripping and tightening tools" that has a percentage of (63.3), while the least percentage of equipments availability (10.7) belong to items (3 & 21) which are "electrical resistance" and "Metal sheets of various thicknesses".

All the mentioned results are consistent with the study of Twalbeh (2005) in which the researcher found out that there is shortage in the materials and equipments of vocational education workshops in general and a decrease in using educational media by vocational education teachers. He also found that educational media that expose the learner to direct experience are more in use and auditory equipments are less in use.

On the other hand, results were not consistent with the study of Tarawneh (1999) which aimed at knowing about the availability educational communication means and its degree of use in technical industrial colleges in Oman. Its results showed sufficient availability of educational media and devices.

The availability of equipments associated with applying the sewing and weaving sector:

Table (5)

Frequency rates and percentages of the availability of equipments associated with applying the sewing and weaving sector

The Degree of Availability			
No.	**Equipments associated with applying the sewing and weaving sector**	**Freq.**	**Percent.**
1	Stitch sewing machine	59	48.8
2	Zigzag stitch machine	9	7.4
3	Scissors	55	45.5
4	Threads of various types	51	42.1
5	Patterns	12	9.9
6	Ruler	51	42.1
7	Ink pens	20	16.5
8	Pencils	58	47.9
9	Meter	67	55.4
10	Fabric	42	47.9
11	Work tables	66	54.5
12	Needles	42	34.7
13	Microscope	4	3.3
14	Chips and covers	4	3.3
15	Testing device of threaded durability	4	3.3
16	Testing device for elongation	-	-
17	Thread counter	-	-
18	Ball winder	-	-
19	Scales	-	-
20	Weaving loom	-	-
21	Tricot machine	-	-
22	Fiber	-	-
23	Blades	4	3.3

Table (5) demonstrates that the most prominent availability percentage of equipments associated with applying the sewing and weaving sector is (55.4) for item (9) which is "meter", followed by item (11) that has a percentage of (54.5) and states the availability of "work tables", followed by item (8) that is (47.9%) and states the availability of "pencils", while "Testing device for elongation", "Thread counter", "Ball winder", "Scales", "Weaving loom", "Tricot machine", "Fiber" for items (15, 16, 17, 18, 19, 20, 21, 22) are not available.

All the mentioned results are consistent with the study of Fagbemi (1995) that was conducted in Kwara and Kogi States secondary schools, Nigeria. Its results demonstrated a shortage in the availability of educational media and equipments in all schools and showed that 62% of teachers didn't receive any training at using educational media. The current study is also consistent with the study of White (1993) conducted in the State of Texas. It demonstrated that most of available media is old and traditional.

The availability of equipments associated with applying the health and public hygiene sector:

Table (6)

Frequency rates and percentages of the availability of equipments associated with applying the health and public hygiene sector

No.	**Equipments associated with applying the health and public hygiene sector**	**Freq.**	**Percent.**
1	Medical scissors	53	43.8
2	Absorbent cotton	79	65.3
3	Antiseptic	89	73.6
4	Adhesive bandage	83	68.6
5	Sterilization materials	79	65.3
6	Fire extinguisher	83	68.6
7	Work clothes	26	21.5
8	Protective glasses	37	30.6
9	Head covers	17	14.0
10	Protective masks	45	37.2

Table (6) demonstrates that the highest availability percentage of equipments associated with applying the health and public hygiene sector which is (73.6) in item (3) "Antiseptic", followed by items (6 & 4) "Fire extinguisher" and "Adhesive bandage" both have percentages of (68.6), followed by item (5) "Sterilization materials" and has a percentage of (65.3) while the least percentage of equipments availability (14.0) belong to item (9) which is "Head covers".

All the mentioned results are consistent with the study of Amawy (2003) which aimed at exploring the actual situation of education techniques and the obstacles that challenge their application in basic education schools situated in Arbid governorate. Amawy study results demonstrated that tools and materials that are mostly used in schools are old in addition of shortage in modern devices and materials.

The second question: What is the necessary degree of teachers utilization of available teaching media and pre-vocational equipments in teaching?

Answering second question, arithmetic means and standard deviations of the degree of utilizing of equipments available in vocational education workshops were calculated as well as the degree of their use in each of the domains of the study.

The degree of utilization associated with agricultural sciences:

Table (7)

Arithmetic means and standard deviations of the degree of utilization of equipments belonging to agricultural sciences

The Degree of			
No.	**The degree of equipments belonging to agricultural sciences**	**mean**	**Standard Deviations**
1	Tools for loosening the earth (spading fork, hoe, spade, rake)	2.36	0.66
2	Soil cultivation machinery (tractors and such)	-	-
3	Fruitful and fruitless trees	2.26	0.57
4	Pruning tools(trees scissors)	2.22	0.57
5	Tree grafting tools (knife, scrolls)	2.04	0.54
6	Tools for planting household plants	2.32	0.62
7	Materials for planting household plants (household plants, seeds of household plants)	2.34	0.48
8	Materials for planting school gardens (trees, earth expanses)	2.31	0.62
9	Work tables	2.24	0.50
10	Gas stove	2.29	0.54
11	Refrigerator with a freezer	2.17	0.54
12	Machines for cooking	2.07	0.38
13	Pots	2.19	0.57
14	Trays	2.19	0.51
15	Plats	2.29	0.55
16	Pans	2.16	0.48
17	Vegetable mincers	2.18	0.52
18	Knifes	2.22	0.52
19	Spoons and knifes	2.18	0.52
20	Food supplies	2.04	0.33
21	Oils	2.03	0.34
22	Spices	2.07	0.37
23	Evacuee	2.46	0.52
24	Cleaning materials	2.40	0.51
25	Dining table	2.07	0.29
26	Cleaning towels	2.48	0.50
27	Kithen tables	2.28	0.45
28	Kitchen oven.	2.31	0.53

Table (7) demonstrates that the most prominent arithmetic mean for the degree of use of equipments belonging with agricultural sciences is (2.48) for item (26) which is the use of followed by item (24) with an arithmetic mean of (2.40) which is the use of "cleaning materials" while the lowest arithmetic means are (2.04) for item (5) which is the use of " Tree grafting tools (knife, scrolls)" and (2.03) for item (21) which is "oils". The item "Soil cultivation machinery (tractors and such)" isn't used.

All results are consistent with the recommendations of the study of Al-Fraihat (1993) aimed at evaluating vocational education training in Jordan. And in the study the researcher concluded that following up with the development and modernization of equipments and devices needed in vocational education in Jordan is necessary.

The degree of utilization of equipments belonging with applying the engineering sector:

Table (8)

Arithmetic means and standard deviations of the degree of utilization of equipments applying the engineering sector

No.	Equipments associated with applying the engineering sector	Arithmetic means	Standard deviations
1	Volt-meter	1.98	0.30
2	Ampere-meter	2.00	0.26
3	Electrical Resistance	2.00	0.26
4	Voltage tester	2.23	0.63
5	Various screwdrivers	2.26	0.74
6	Gripping and tightening tools	2.31	0.55
7	Electrical wires	2.26	0.54
8	Electrical sockets	2.19	0.49
9	Electrical switches	2.18	0.56
10	Wooden boards	2.20	0.40
11	Wire fitting tools	2.22	0.44
12	Various files	2.07	0.37
13	Hacksaw	2.10	0.54
14	Electrical iron saw	2.00	0.37
15	Drawing tools on the tin	2.08	0.49
16	Electrical tin scissor	2.02	0.33
17	Drawing tools tin	2.02	0.42
18	C. Clamp	2.17	0.65
19	Work table	2.26	0.59
20	Welding machine	2.17	0.53
21	Metals sheets of various thicknesses	2.07	0.25
22	Iron of various measures	2.01	0.46
23	Welding wires	2.04	0.55
24	Various files	2.09	0.41
25	Hacksaw	2.16	0.61
26	Handsaw	2.09	0.50
27	Electrical wood saw	2.17	0.45
28	Various types of wood	2.23	0.50
29	Hammers of various weights	2.36	0.56
30	Nails of various sizes	2.34	0.54
31	Screws of various sizes	2.33	0.49
32	Glue	2.20	0.40

Table (8) demonstrates that the highest arithmetic mean for the degree of use of equipments belonging with applying the engineering sector is (2.36) for item (29) which is the use of "Hammers of various weights), followed by (2.34) for item (30) which is the use of "Nails of various sizes", then followed by (2.33) for item (31) which is the use of "Screws of various sizes", while the lowest arithmetic mean is (1.98) for item (1) which is the use of "Voltmeter".

All the mentioned results are consistent with the study of Beni Esmail (2000) which aimed at exploring the actual situation of educational media in teaching the curricula of vocational education to upper basic education grades from the perspective of teachers in Ajloon governorate. The results of this study demonstrated the shortage of available materials and equipments and the lack of using them by teachers. The reason is that teachers lacked sufficient experience of using available materials and workshops.

The degree of use of equipments associated with applying the sewing and weaving sector:

Table (9)

Arithmetic means and standard deviations of the degree of use equipments associated with applying the sewing and weaving sector:

The Degree of Use			
No.	**Equipments associated with applying the sewing and weaving sector**	**Arithmetic means**	**Standard deviations**
1	Stitch sewing machine	0.00	0.00
2	Zigzag stitch machine	2.14	0.35
3	Scissors	2.29	0.46
4	Threads of various types	2.14	0.35
5	Patterns	2.00	0.00
6	Ruler	2.00	0.00
7	Ink pens	2.07	0.25
8	Pencils	2.20	0.55
9	Meter	2.15	0.36
10	Fabric	2.07	0.45
11	Work tables	2.14	0.51
12	Needles	2.14	0.35
13	Microscope	0.00	0.00
14	Chips and covers	0.00	0.00
15	Testing device threaded durability	0.00	0.00
16	Testing device for elongation	0.00	0.00
17	Thread counter	0.00	0.00
18	Ball winder	0.00	0.00
19	Scales	0.00	0.00
20	Weaving loom	0.00	0.00
21	Tricot machine	0.00	0.00
22	Fiber	0.00	0.00
23	Blades	0.00	0.00

Table (9) demonstrates that the most prominent arithmetic mean for The degree of use of equipments belonging sewing and weaving sector is (2.29) for item (3) which is the use of scissors followed by (2.20) for item (8) which is the use of "pencils" followed by (2.15) for item (9) which is the use of (Meter), followed by items (2, 4, 11, 12) which all have an arithmetic mean of (2.14) and are as the following order "Zigzag stitch machine, threads of various type, work tables, needles", while all the following mentioned items have no use at all " stitch sewing machine, patterns, ruler, Microscope, chips and covers, testing device of threaded durability, Testing device for elongation, thread counter, ball winder, scales, weaving loom, tricot machine, fiber, blades ". The results of this study are consistent with the study of Al-Tarawneh (1999) which demonstrated a decrease in the use of tools in technical industrial colleges in Oman.

- The degree of use of equipments belonging to the applying of the health and public hygiene sector:

Table (10)

Arithmetic means and standard deviations of the degree of use equipments belonging to applying of the health and public hygiene sector

The Degree of use			
Standard deviations	**Arithmetic means**	**Equipments associated with applying the health and public hygiene sector**	No
0.63	2.22	Medical scissors	1
0.61	2.40	Absorbent scissors	2
0.67	2.42	Antiseptic	3
0.50	2.45	Adhesive bandage	4
0.49	2.41	Sterilization materials	5
0.64	1.74	Fire extinguisher	6
0.38	2.17	Work clothes	7
0.45	2.17	Protective glasses	8
0.33	2.04	Head covers	9
0.44	2.07	Protective masks	10

Table (10) demonstrates that the most prominent arithmetic mean for the degree of use of equipments belonging to the applying of health and public hygiene sector is (2.45) for item (4) which is the use of "Adhesive bandage", followed by item (3) which is the use of "Antiseptic" and has an arithmetic mean of (2.42), followed by (2.41) for item (5) which is the use of "Sterilization materials", while the lowest arithmetic mean (1.74) is for item (6) which is the use of "Fire extinguisher".

It's worth mentioning that the current results of the study are consistent with the results of most of the studies such as the study of Lin (1996) which was conducted in the State of Texas, USA and demonstrated that teachers prefer using traditional educational media to using modern materials and techniques.

Conclusions and recommendations:

Through reviewing the results of this study the following conclusions can be drawn:

- There is a shortage in the availability of equipments of pre-vocational education workshops in the included schools in the sample of the study "Irbid governorate" in all the sectors belonging to agricultural sciences, applying the engineering sector, applying the sewing and weaving sector, and applying the health and public hygiene sector.
- The degree of use of equipments of pre-vocational education workshops depends on the degree of availability of most of the tools for various sectors.
- The degree of availability of equipments of pre-vocational education workshops in the included schools in the sample of the study didn't meet the expected level since some of the necessary equipments are still nonexistent in vocational education workshops in these schools.
- There are high degrees of both availability and application for tools that are more traditional and frequent such as adhesive bandages, screwdrivers, and pliers. They are considered the least needed to be available in vocational education workshops.
- The equipments of the engineering sector came to be the most prominent in males' schools and equipments of the sewing and weaving sector the most prominent in females' schools.

Recommendations

In the light of the mentioned conclusions and results, the following can be recommended:

- Reviewing the equipments and necessities of vocational education workshops in Irbid governorate schools.
- Working on increasing the availability of some tools that help in conducting vocational education programs more effectively and train students to use it.
- Conducting a comprehensive study on the needs of vocational education workshops of equipments that supervisors and managers find necessary to these workshops.
- Working on providing a separate budget for vocational education workshops which gradually guarantees the availability of necessary tools so that all the necessities of vocational education workshops are available within a reasonable time frame.
- Conducting a study on the obstacles of providing the equipments and tools of vocational education workshops to be able to work on processing them and finding alternative solutions for them.

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