The Extent to Which Vocational Education (VE) Teachers Are Able to Perform Practical Activities in the Vocational Education Course in Light of the Provision of Distance Education in Jordan

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Abstract

This study investigated the ability of vocational education (VE) teachers to do practical activities in the VE course in the light of delivering distance education in Jordan. It explored this ability from. The descriptive analytical and quantitative approaches were adopted. The study's sample consists from two hundred (200) VE teachers who were chosen randomly from several public schools in Amman. To meet the goals of this study, the researcher developed a questionnaire. This questionnaire consists from two parts. The first part obtains data about gender and experience (i.e. demographic data). The second part obtains data about the study's areas (i.e. teachers, VE curricula, and grade). SPSS was used. In addition, several descriptive statistical methods were used. The researcher found that the ability of vocational education (VE) teachers to do practical activities in the VE course in the light of delivering distance education in Jordan is poor. He found that there isn't any significant difference –at the significance level of (a=0.05) between the respondents' attitudes which can be attributed to gender or experience. He provided several recommendations. He recommends using e-learning platforms that are more interactive when delivering online education during any crisis.

Keywords: distance education, vocational education, practical activities, Jordan

1. Introduction

The shift to distance education affected the quality of education. That applies to all courses, especially the courses that require doing practical activities and acquiring practical experiences. Such courses include: the vocational education (VE) course.

According to the UN (2020), schools in many countries were closed for a temporary period due to COVID 19 crisis. That was done to prevent the COVID 19 virus from spreading. Such closure affected 94 % of the students worldwide. It affected 99 % of the students in lower and middle-income countries (the United Nation. Hence, schools delivered distance education through the use of e-leaning platforms (UN), 2020). Such platforms allowed teachers to communicate with students. They allowed teachers to administer exams and send students homework. However, using such platforms effectively requires having excellent IT skills by teachers. It also requires taking the individual differences between teachers into consideration (Alqiam, 2021). It also required having curricula that meet the required requirements and standards (Madi, 2022)

The term (distance education) emerged during the late 1960s of the 20thcentury. There are synonyms for the term (distance education). Such synonyms include: distance learning, and distance teaching (Shery, 2001). Distance education allows schools to have great numbers of students accepted. It permits schools to deliver education of high quality to the students living in remote areas (Al-Yahyawi, 2011).

The academic material used in the light of delivering distance education is very important. In fact, it contributes to reducing the costs of education (Al-Yahyawi, 2011).

Abu Osbah (2005) adds that vocational education plays a major role in enabling the labour force to handle the rapid changes. He adds that VE plays a major role in enabling the labour force to meet the demands of the labour market

To meet the goals of VE, there must be qualified VE teachers. VE teachers must have the basic competencies. Such

competencies include: the ones related to communication, IT, and teaching. They must have such competencies in order to deliver vocational education of high quality, promote cooperation, handle responsibilities, and improve students' practical skills (Al-Tuwaisi, 2013).

To meet the goals of VE, there must be good VE curricula. VE curricula play a major role in promoting positive attitudes among students towards VE. They play a major role in developing students' ability to adapt themselves with the school environment and local community. They encourage students to carry out activities that fit with their vocational interests and capabilities. They allow students to choose their future profession wisely (Al-Labadi, 2018).

VE curricula address topics related to crafts. They allow students to identify the skills needed for practicing crafts. They include practical activities. Such activities contribute to meeting the goals of the curricula. They allow students to develop their skills and attitudes and expand their knowledge. They allow students to make their decisions effectively (Ayroot, 2010).

VE aims at developing students' practical skills. It also plays a significant role in developing the students' personalities. It plays a significant role in allowing students to meet life requirements (Ahmad and Al-Say'aydeh, 2012).

Developing students' practical skills through VE plays a significant role in raising students' motivation to learn. Carrying out practical activities in VE courses shall make the students realize the value of the information they acquired. It shall enable the students to apply theoretical knowledge in a practical manner. It shall keep the learner interested in learning about the fields of VE (Morris, 2000).

Vocational education has several aspects. Those aspects are:

1) The cognitive aspect: It's represented in the theoretical information and knowledge related to crafts

2) The skill-related aspect: It is represented in implementing the theoretical information and knowledge related to crafts. In other words, it's represented in doing practical activities by students.

3) The emotional aspect: It's represented in the promotion of positive attitudes among students towards crafts (Al-Say'aydeh and Mahasneh, 2015).

Although VE course and the practical activities carried out in the VE course are significant, there are few studies that shed a light on the practical activities carried out in VE courses. Therefore, it was necessary to conduct this study. The problem of this study is represented in exploring the ability of vocational education (VE) teachers to do practical activities in the VE course in the light of delivering distance education in Jordan.

1.1 Objectives#

This study aimed at exploring the extent of ability of vocational education (VE) teachers to do practical activities in the VE course in the light of having distance education delivered in Jordan. It aimed at exploring this extent from the perspective of the VE teachers. It also aimed to explore the impact of gender and experiences on the respondents' attitudes.

1.2 Questions

This study offered answers for the questions below:

Q1 What is the reality of the ability of the vocational education (VE) teachers to do practical activities in the VE course in the light of delivering distance education in Jordan from the perspective of those teachers?

Q2 Do gender and experience have a statistically significantly impact on the respondents' attitudes?

1.3 The Study's Significance

This study is significant because:

1) It investigated the reality of the ability of (VE) teachers to do practical activities in the VE course in the light of delivering distance education in Jordan from the view of those teachers.

2) It aimed to assist the makes of decisions in the vocational field in finding solutions for addressing the obstacles hindering the VE teachers from doing practical activities in the VE course in the light of having distance education delivered

3) It aimed to provide recommendations and suggestions for improving the abilities of VE teachers and quality of VE education.

1.4 Definition of Terms

• Vocational education: It refers to the education that aims at producing skilled workers (Ariyani et al., 2021). It refers to the education that enables students to master professional knowledge, acquire professional skills, and adopt good professional ethics in order to engage in the production process. It affects the economic development of a country a (Ni, & Wang, 2022)

• VE teachers: They are the teachers who teach the VE course in basic schools in Jordan.

• VE curricula: They refer to the books used in the VE course in basic schools in Jordan for teaching students

• Distance education: It is a pattern of education through which student and teacher are separated physically from each other. In this pattern of education, students are taught through using the web (Al-Derbashi, & Abed, 2017)

1.5 The Study's Limits

Those limits are mentioned below

• Spatial limits: This study targets the public schools in Amman.

• Temporal limits: This study was carried out during the first semester of the year 2021/2022.

• Human limits: This study targets a sample of VE teachers who got selected from several public schools that are in Amman.

1.6 Previous Studies

The following studies were reviewed by the researcher:#

Erliana et al (2021) explored the Indonesian students' attitudes towards online learning during the COVID-19 pandemic. The data was obtained through the use of a survey uploaded to the web through Google form. This survey includes twenty (20) items. The sample consists from 107 students in Indonesia. The researchers found that 59.81% of students aren't satisfied with this pattern of learning. 76.95% of the students believe that the problems in accessing the internet serve as the main obstacle hindering the delivery of online education. However, 67.50% of students are satisfied with this pattern of learning.

Kovacs et al. (2021) explored the effects of COVID-19 pandemic in 2020 on various educational aspects and teaching practices. They offered insights about the experiences of teaching during the lockdown. The study targets 41 teachers chosen from several primary schools. Those teachers were residing in Vaud, Switzerland, and teach VE course. The latter researchers adopted a comparative qualitative approach. This approach offered an opportunity for conducting an analysis for examining the main differences and similarities at 3 different educational levels. This analysis aims to acquire information about the practices of coping that are prevalent in teaching. It was found that the VE teachers handled the challenges related to the use of digital tools, and interaction quality effectively during the COVID 19 pandemic

Zalat et al. (2021) investigated the factors which influence the acceptance and adoption of e-learning platform for teaching in higher educational institutions in Egypt. Data was collected through using an online questionnaire. A technology acceptance model (TAM) was used. It was validated for investigating the factors which influence the acceptance and use of e-learning platform as a teaching tool by the staff specialized in medical sciences in Zagazig University, Egypt. The researchers found that (88%) of the staff believe that the technological skills of giving the online courses raise the educational value of the experience of the college staff. The percentages of the participants' agreement on perceived usefulness, perceived ease of use, and acceptance of e-learning are (77.1%, 76.5%, and 80.9% respectively). Regarding the major barriers to the use of e-learning platforms, they include: insufficient/ unstable internet connectivity (40%). They also include: the lack of computer labs (36%). They include: the lack of laptops and computers (32%) and facing problems related to technical aspects (32%).

Mulyant et al. (2020) explored the ability of students and teachers to use the learning facilities. They explored the way in which learning activities are carried out in public and private high schools that are specialized in vocational education. They adopted a quantitative descriptive approach to have the data analyzed. They used a survey to obtain data. The population includes all the teachers and students in public and private high schools that are specialized in vocational education in the Electrical Engineering Clusters in West Java. Online learning has been delivered in many public and private vocational high schools in West Java. The researchers found that the online learning facilities in public vocational high schools are better than those in private vocational high schools. In addition, students believe that online learning isn't more interesting than the conventional pattern of learning.

Khusni et al. (2020) offered an overview for the perceptions of students majoring in Mechanical Engineering

Education towards on online learning as a result of the impact of the COVID-19 pandemic. They used a survey. The sample consists of 56 students. It was found that the teachers' ability to manage online learning are not in line with the student expectations. Students believe that online learning didn't offer them better learning experience nor increased their productivity. They believe that online learning didn't' enable them to master the required competencies. However, they believe that online learning motivated them to learn and make the process of learning easier. Some students added that they found it easy to access resources. However, they still reluctant to keep using them in the future. #

Ahmad and Al-Say'aydeh (2012) explored the degree to which VE teachers focused on developing students' practical skills in Al-Balqa, Jordan from the teachers' perspective. They aimed to identify whether the teachers' major and gender, number of students in classroom and conditions of the workshop affect the respondents' attitudes. They targeted 5th, 6th, and 7th grades. Data was obtained from 70 periods through observation. Interviews were held with 25 teachers. The validity of the instruments was checked through passing them to experts to be assessed. They are accepted. The reliability of the instruments was checked and deemed accepted. The researchers found that the degree to which VE teachers focus on students' practical skills in Al-Balqa, Jordan is 74.7 % through observation and 76% through the interview method. They found that 71.1% of the sampled teachers dedicate less than 75% of the period for developing the students' practical skills.

Abu Osbeh (2005) explored the problems faced when delivering VE in Palestinian VE schools from the perspective of VE teachers and students. He explored whether (gender, major, academic qualification, experience and province) affect the VE teachers' attitudes in those schools. He explored whether (gender, grade, VE stream and province) affect the students' attitudes in those schools. To meet the goals, a stratified random sample was chosen. It consists from 132 teachers. The researchers found that the severity of the targeted problems is high from the teachers' perceptive. The mean of the funding dimension is ranked first. The mean of the teacher professional development is ranked second. The researchers found that the severity of the targeted problems is moderate from the students' perceptive. The mean of the resources and equipment are ranked first. The mean of the teacher professional development is ranked last.

1.7 Comments on the Aforementioned Studies

The studies displayed above address the significance of VE. They also shed a light on the most significant obstacles facing teachers and students in VE courses. They also shed a light on the impact of the COVID 19 pandemic on education in general and the vocational and technical education in particular.

In terms of the present article, it investigated the ability of (VE) teachers to do practical activities in the VE course in the light of having distance education delivered in Jordan from the view of those teachers. It targets the period in which Jordan suffered from the COVID 19 crisis. That is because this crisis affected much the reality of education. It is because this crisis affected the teaching process in the courses that involve practical activities and applications.

2. Methodology

2.1 Approach

The researcher adopted the descriptive analytical approach. The latter approach is the most suitable approach for carrying out this study. It's used by scholars for offering a description for phenomena, items and objects. This description has a sensory nature. This approach is used for investigating variables and their dimensions (Lawless and Heymann, 1999: 7). The researcher also adopted a quantitative approach. According to Al-Derbashi, and Moussa (2022), the latter approach is usually adopted for developing a new theory or checking the validity of theoretical assumptions or hypotheses.

2.2 Population

The population involves all the teachers who teach VE course at the public schools located in Jordan.

2.3 Sample

The researcher chose a sample through employing the random sampling method. This sample consists from 200 VE teachers who were chosen form several public schools located in Amman. It includes female and male VE teachers. The forms of the questionnaire were passed to those VE teachers. The forms got retrieved. They are valid for analysis. Table 1 below shows data about the sample

Table 1. Date about the sample

Variable	Category	Frequency	Percent
Gender	Male	92	46.0
	Female	108	54.0
	Total	200	100.0
Experience	Less than 5 years	48	24.0
	5-10 year	87	43.5
	More than 10 year	65	32.5
	Total	200	100.0

2.4 The Study's Instrument

This article investigated the ability of vocational education (VE) teachers to do practical activities in the VE course in the light of having distance education delivered in Jordan. It explored this ability from the perspective of those teachers. To meet the goals of this study, the researcher developed a questionnaire which consists from two parts. The first part obtains data about the gender and experience of the respondents. Such data are called (demographic data). The second part obtains data about the areas that are being targeted in this study. Those areas are: (teachers, VE curricula, and grade).

The five point Likert scale was used for obtaining data. It involves five rating categories which values range from 1 to 5.

2.5 Validity

The validity of the questionnaire was checked through passing it to three experts. Those experts are experts in educational sciences and VE. They were requested to assess the survey in terms of language, relevancy to the intended goals and clarity. They suggested that the instrument is clear and free from mistakes related to language. They added that the instrument is related to the goals. The suggestions made by the experts were taken into consideration.

2.6 Reliability

Cronbach alpha coefficient value was calculated. It's 0.862. It's a high value. Thus, the instrument enjoys a high level of reliability.

2.7 Methods for Statistical Analysis

SPSS was used. In addition, several statistical methods were used. Those methods are shown below:

1) Frequencies and percentages: They are used to identify the characteristics of the respondents.

2) Standard deviations and means: They are used to identify the respondents' attitudes towards each statement

3) Multivariate analysis of variance

2.8 Statistical Analysis Criteria

The following criteria were used for classifying the calculated means into categories: 1.00-2.33: Low/ 2.34-3.67: Moderate / 3.68-5.0: High

3. Results and Discussion

3.1 Results and Discussion Related to Question One:

Q1What is the reality of the ability of the vocational education (VE) teachers to do practical activities in the VE course in the light of delivering distance education in Jordan from the perspective of those teachers?

To provide an answer for this question, the required values for all the targeted areas are listed. Those areas include: (teacher, VE curricula and grade). They are shown below:

Table 2. Values for the Study's Areas

No	Variables	Mean	Std.	Rank	Level
1	Teacher	2.31	1.05	1	Low
3	Grade	2.29	0.89	2	Low
2	VE curricula	2.25	0.78	3	Low
	Total	2.28	0.83		Low

Based on table (2), the ability of vocational education (VE) teachers to do practical activities in the VE course in the light of having distance education delivered in Jordan from the view of those teachers is poor. That applies all the study's areas jointly. That's because the overall mean is 2.28. Regarding the mean of the teacher area, it's ranked first, because it's 2.31. The mean of the grade area is ranked second, because it's 2.29. The mean of the VE curricula is ranked third, because it's 2.25.#

This result could be attributed to the impact of distance education on VE teachers' ability to do practical activities in the VE course. Doing such activities requires having the teacher and the students in the same place in order for the teacher to supervise students. However, the use of e-learning platforms doesn't allow VE teachers to do that. Thus, it affected the way of teaching students in the VE course.

The detailed results about each area are shown below through means and standard deviations:

First area: Teachers:

Through calculating means and standard deviations, the researcher explored the extent of ability of vocational education (VE) teachers to do practical activities in the VE course in the light of having distance education delivered in Jordan in the (teachers) area. Those values are shown below

Table 3. The Sampled VE Teachers' Attitudes towards the Teacher Area#

No	Statements	M	S.D	Rank	Degree
4	The VE teacher can do practical activities through using electronic learning platforms	2.30	0.95	1	Low
2#	It's not difficult to teach the VE course through using e-learning platforms	2.29	0.87	2	Low
1#	The time allocated for vocational education lessons is adequate for doing activities	2.27	0.91	3	Low
5	Distance education is deemed better than face-to-face education for teachers	2.24	0.98	4	Low
3	VE teachers can do team work-based activities through using e-learning platform	2.23	1.02	5	Low
	Overall	2.31	1.05		Low

Based on the table shown above, the overall mean is 2.31. It's low. The mean of statement (4) is 2.30. It's ranked first. It's deemed low. This statement suggests the following: (The VE teacher can do practical activities through using electronic learning platforms). The latter result can be attributed to providing teachers with inadequate training courses about the way of using e-learning platforms. It may be attributed to the lack of attention shown to the use e-learning platforms in the training courses targeting VE teachers. It is consistent with the result reached by Alqaim (2021) who found that many teachers have poor IT skills.

The mean of statement (3) is 2.23 which is ranked last. It's deemed low. This statement suggests the following: (VE teachers can do team work-based activities through using e-learning platform). It is consistent with the result reached by Alqaim (2021) who found that many teachers have poor IT skills. It could be attributed to the failure of teachers to do the practical activities in the same manner used before the COVID 19 crisis. That is attributed to shifting to the delivery of distance education due to this crisis. However, doing practical activities in VE course requires having the student and teacher sitting in the same place.

Second area: The VE curricula

Through calculating means and standard deviations, the researcher explored the extent of ability of vocational education (VE) teachers to do practical activities in the VE course in the light of delivering distance education in

Jordan in the (VE curricula) area. Those values are shown below.

Table 4. The Sampled VE Teachers' Attitudes towards the (VE curricula) Area#

No	Statements	M	S.D	Rank	Degree
7	The practical activities in the VE curricula meet the requirements of distance learning	2.28	0.88	1	Low
9#	The VE curricula shed a light on theoretical aspects more than practical aspects	2.26	0.95	2	Low
10#	It's accepted to exclude practical activities from the VE curriculum	2.22	0.97	3	Low
6	The VE curricula takes into account the differences between students through practical activities	2.20	1.01	4	Low
8	The VE curricula are effective for teaching students in the light of delivering distance education	2.19	1.05	5	Low
	Total	2.25	0.78		Low

Based on the table shown above, the overall mean is 2.25 which is low. The mean of statement (7) is 2.28 which is ranked first. It's deemed low. This statement suggests the following: (The practical activities in the VE curricula meet the requirements of distance learning). The latter result is not consistent with the result reached by Madi (2022) who found that the targeted curricula meet the standards related to the design and development. It may be attributed to the fact that the ones who drafted the VE curricula lack knowledge about such requirements.

The mean of statement (8) is 2.19 which is ranked last. It's deemed low. This statement suggests the following: (The VE curricula are effective for teaching students in the light of delivering distance education). The latter result is not consistent with the result reached by Madi (2022) who found that the content of the targeted curricula used during the delivery of distance education is clear and keeps up with the latest scientific developments. It indicates that special VE curricula must be developed for delivering VE in the light of adopting the distance education approach.

This result could be attributed to the fact that the targeted curricula were designed for enhancing students' vocational skills. Most of the vocational skills can be developed through doing practical activities and experiments in classroom. That indicates that distance education hinders VE teachers from doing practical activities in the VE course.

The third area: Grade:

Through calculating means and standard deviations, the researcher explored the extent of ability of vocational education (VE) teachers to do practical activities in the VE course in the light of delivering distance education in Jordan in the (grade) area. Those values are shown below:

Table 4. The Sampled VE Teachers' Attitudes towards the (Grade) Area#

No	Statements	M	S.D	Rank	Degree
14	The abilities of students to do activities in the VE course vary from one grade to another	2.33	0.99	1	Low
11#	The abilities of students to do activities in the VE course in the first three grades differ from the counterpart ability of students in the higher basic grades	2.31	1.18	2	Low
13#	Older students are capable of complying with the teachers' instructions that are related to practical activities	2.28	0.83	3	Low
15	Teachers receive many questions from students when doing activities through the e-learning platform	2.27	1.01	4	Low
12	Students have a lack of understanding for practical activities in the VE course	2.26	1.02	5	Low
	Total	2.32	0.76		Low

Based on the table shown above, the overall mean is 2.31 which is low. The mean of statement (14) is 2.33 which is ranked first. It's deemed low. This statement suggests the following: (The ability of students to do activities in the VE

course varies from one grade to another). The latter result may be attributed to the fact that students' abilities in higher graders are better than the counterpart abilities of students in the lower grades.

The mean of statement (12) is 2.26 which is ranked last. It's deemed low. This statement suggests the following: (Students have a lack of understanding for practical activities in the VE course). The latter result may be attributed to the provision of students with inadequate information about practical activities. It may be attributed to the fact that VE teachers don't focus on practical activities. #

The latter result could be attributed to the fact that numerous students in many grades face challenges in doing practical activities in the light of delivering distance education through the e-learning platform. The results indicate that it's significant to do the practical activities in the VE course in classroom rather than doing them in the light of having distance education delivered through the e-learning platform.

3.2 Results and Discussion Related to Question Two

Q.2 Do gender and experience have a statistically significantly impact on the respondents' attitudes?

To explore the attitudes in accordance with gender and experience¸ the required values are shown in the table below.

Table 6. Values of the Respondents' Attitudes in Accordance with Gender and Experience

Variable	Category	No	M	S.D
Gender	Male	92	2.31	0.651
	Female	108	2.32	0.094
Experience	Less than 5years	48	2.29	0.118
	5-10 years	87	2.25	0.653
	More than 10 year	65	2.24	0.366

It appears that gender and experience affect attitudes. To identify whether such impact is significant or not –at the significance level of (a=0.05)- the multivariate analysis of variance was carried out. The results in this regard are shown below:

Table 7. The Results of the Multivariate Analysis of Variance

Source	Sum of Squares	Df	Mean Square	F	Sig.*
Gender	0.754	1	0.754	0.409	0.117
Experience	0.091	1	0.091	0.109	0.213
Error	87.131	197	0.800		
Total	1798.018	200			

Based on table (8), gender and experience don't significantly affect attitudes. That is because the sig value of gender is 0.117 and the sig value of experience is 0.213. Those values aren't significant.

This result may be attributed to the fact that all VE teachers –of various gender and experiences- have been facing similar obstacles in teaching VE. Such obstacles hinder teachers from doing practical activities and assisting students in the learning process.

The latter result may be attributed to the fact that the sampled VE teachers –of all genders and experiences- receive similar training courses because they all work in public schools. Thus, receiving similar training courses shall make them have similar abilities in terms of doing practical activities. The latter result may be attributed to the fact that male and female VE are specialized in VE education. That shall make them have similar abilities in terms of doing practical activities.

4. Conclusion

The researcher found that the ability of vocational education (VE) teachers to do practical activities in the VE course in the light of delivering distance education in Jordan from the perspective of those teachers is poor. That is attributed to the use of e-learning platform for delivering distance education. Such use negatively affected the process of teaching students in VE courses in Jordan and other Arab countries.

5. Recommendations

Based on the results, the researcher recommends:

-Using e-learning platforms that are more interactive when having to deliver online education during any crisis.

-Developing a guide for VE teachers. This guide must assist those teachers in doing practical activities in the VE course in the light of delivering distance education.

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