

The Impact of Integrating Vocational Education and Psychological Counseling in Achieving the Personal and Professional Goals of Students Majoring in Vocational Education in Jordanian Universities

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Abstract

This study aims to reveal the challenges faced by students majoring in vocational education at Jordanian universities in Jordan. A sample of (200) male and female students majoring in vocational education was chosen from students at Irbid Private University, 290 students, Al-Balqa University, Al-Hosn University College, 455 students, and Shobak University College, 255 students. The study sample was chosen at a rate of 20%, amounting to 1,000 students. A questionnaire was designed consisting of two areas: challenges related to infrastructure and challenges related to students. The validity and reliability of the questionnaire was verified. The results indicate that the level of challenges facing students is high, whether at the infrastructure level or at the student level, with no statistically significant impact on gender. Practical training requires specific materials, tools and tools that cannot be adequately provided through distance education. The study recommends improving the vocational training infrastructure to enhance the quality of education and training. Whether at the infrastructure level or at the student level, practical training at the university requires the availability of a training environment with capabilities that allow learners to implement the targeted skill practically within vocational education workshops affiliated with educational institutions, which cannot be achieved through distance learning or through educational and training methods. . Not advanced. Therefore, the problem of this study lies in revealing the challenges facing students of vocational education in Jordanian universities and the extent of the university's ability to provide an appropriate training environment to achieve the goal of training for students specializing in vocational education in universities.

Keywords: Vocational training, Challenges, Development, Jordan.

Introduction

According to Twisi (2013) and Ofiawe Nyago (2018), the main objective of all programs is to allow students to acquire knowledge as well as practical skills and attitudes associated with employment in a particular vocational field, noting that practical skills are vital to achieving competitive advantage for the national economy. . Practical training represents the core of vocational education. Through training, the focus is on practical skills to prepare the individual to

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work in a specific profession or raise his competence in a profession he is already practicing Steven, Matthew, (2005). Peterson (2007) considered practical training one of the basic requirements for success in working life through the development of basic skills so that the individual is prepared for employment by acquiring specific skills in one or more areas of production, operation, maintenance and management Processes. Or other services Vocational training and education is one of the fields of education that aims to provide students with specific knowledge and skills in order to prepare them to engage in the labor market to participate in sustainable community development Williams, Becky, (2018) This could be Subject to a certain level, age group, or time period. Therefore, practical training qualifies the individual to practice a specific profession or increases his productive efficiency.

The goal of expanding the preparation of the trained workforce in Jordanian universities in order to supply the labor market with trained workforce is to organize the labor market. The institution provides its services to all citizens, and their educational levels are based on the principle of lifelong continuing education, whether that is vocational preparation programs at various levels, or programs improving the efficiency of practicing workers in the labor market. The Foundation also provides training and consulting services in the field of occupational safety and health to reduce accidents in the workplace, training trainers and supervisors in behavioral and administrative aspects, and developing the work of small and medium enterprises. The vision of the institution is to prepare and qualify skilled workers according to the requirements of the labor market through developing and implementing a system of qualitative vocational training services that keeps pace with modernity and technology in partnership with the private sector (General Organization for Training and Development) Vocational Training (Annual Report, Amman, Jordan, 2023).

Problem Statement

The challenges facing vocational education students at the University of Jordan in Jordan are considered a major problem facing the student on the one hand and the educational institution on the other hand, through a group of diverse forms and platforms with or without the use of technology. However, this learning style has proven to be a major challenge in Jordan, as the curriculum is not designed to suit this type of learning.

Practical training at the university requires the availability of a training environment with capabilities that allow learners to implement the targeted skill practically within vocational education workshops affiliated with educational institutions, which cannot be achieved through distance learning or through non-advanced educational and training methods. Therefore, the problem of this study is to reveal the challenges facing students of vocational education at the University of Jordan in Jordan and the extent to which the university is able to provide an appropriate training environment to achieve the goal of training for students specializing in vocational education at the university.

Research Questions

The current study aims to provide answers to the following research questions in light of the topic at hand:

1. What infrastructure-related issues do University of Jordan students majoring in vocational education face?
2. What difficulties do University of Jordan students who major in vocational education face?

3. Does the gender factor affect the types of infrastructural issues that Jordanian students majoring in vocational education face?

Study Objectives

The following goals are sought to be attained by the current study:

1. Identifying the infrastructural issues that University of Jordan students majoring in vocational education face
2. Identifying the difficulties faced by University of Jordan students specializing in vocational education
3. Showcasing disparities in sample members' perspectives on the types of obstacles facing Jordan University's vocational education students in terms of infrastructure.

The importance of the study

This study is significant since it investigates an essential subject, namely identifying the difficulties that students at the University Students from Irbid Private University and Al-Balqa University, Al-Hosn University College and Shobak University College, of Jordan face during their training. This study is intended to accomplish the following things:

1. Information about the nature of the challenges faced by vocational education students helps those in charge of designing and preparing practical education programs in the specialty of vocational education at the University of Jordan to adopt policies that lead to overcoming these challenges.
2. Helping academic staff members adopt teaching methods and exercises that are appropriate for practical education.

Research Limitations

The following constraints apply to this research:

1. Physical restrictions: The Vocational Training Corporation has been the subject of the investigation.
2. Time constraints: This field research was conducted throughout the 2023–2024 year.
3. Human limitations: The study has been applied to students in the Vocational Training Institution who are enrolled in vocational education.
4. Considering the aforementioned restrictions as well as the reliability and consistency of the study method utilized, it is only possible to generalize the study's findings.

Theoretical Framework

A person can only learn a talent by the actual application of the fundamental components of that skill, which necessitates the availability of a variety of materials and technical skills. This means that in order to ensure skill mastery and the acquisition of a set of fundamental values (cooperation, teamwork, accuracy), training requires the provision of practical conditions (materials, tools, techniques, and training plans), followed by practical practicing of the targeted task through training. In order for a student to execute the desired skills through practical training and achieve a high degree of mastery, the necessary infrastructure for training is required, according to al-zoubi (2015) and al-sa'ideh and mahasneh (2015). However, following the pandemic's onset,

educational in an effort to slow the spread, direct (face-to-face) education has been discontinued worldwide as of March 2020, and remote education and learning has taken its place Pietro et al.,(2020).

The International Labor Organization (ILO) performed a survey on the impact of the Covid-19 epidemic on technical and vocational education and training, and the results revealed that these systems lacked the flexibility needed to continue delivering instruction, assessment, and development. According to the study, vocational training facilities only offered a small number of possibilities for students to use technology and online learning materials (Ndahi, 2020).

The World Bank (2020) states that pandemic-related issues were reflected in the workforce's restricted opportunities for retraining and certification, combined with the absence of a plan to end the epidemic, which had an impact on the system of technical and vocational education and training's ability to offer chances for training in technical and vocational skills. Electronic applications, for which the infrastructure was not ready during the Covid-19 outbreak, were one of the major problems practical training had to deal with. Furthermore, scientific curricula were created to support direct (face-to-face) learning rather than distant learning (Shdaifat, Shdaifat, and Khateeb, 2020). The inability of Internet networks, particularly in rural and remote areas, the high cost of Internet use, the lack of opportunities for hands-on learning, the students' lack of technical proficiency, and the lack of access to modern electronic instruments are all examples of remote learning problems, according to Alam (2020). As a result, students are required to complete remote learning using their mobile phones.

According to a study by Syauqi, Munadi, and Triyono (2020), the Covid-19 pandemic problems had an impact on students enrolled in vocational training in terms of their skills, noting that vocational education extends beyond knowledge acquisition to include the possession of the skills necessary for an individual to be qualified for employment. According to Pietro et al. (2020), the Given the lack of appropriate policy measures to address the pandemic's effects on learning, skill levels serve as reliable indicators of what will happen next. Students with low skill levels will have significant difficulties finding employment and earning a living. The effects of the epidemic were immediately seen in Jordan, where professors quickly developed online distance learning programs and students had to adapt their learning styles. The converse is also true for students who lack the essential technological skills to succeed in this style of learning, since not all instructors have the experience to plan and implement e-education over the Internet.

Based on the foregoing discussion, the current study examines the most significant issues that vocational education students in the Vocational Training Corporation in the Hashemite Kingdom of Jordan faced during the pandemic in order to produce sound planning for such programs.

Literature Review

Numerous researches on the impacts and implications of the Covid-19 epidemic on education in general and vocational education in particular have been carried out in various local and international situations. Several pertinent studies will be given in this section.

Onyema et al. (2020) carried out a study to look at the effects on schooling. A total of 200 respondents, including teachers, students, parents, and policymakers

from several African nations, completed standardized questionnaires that were used to collect the data. According to the findings, has detrimental effects on education, including as disruptions in learning, a lack of access to educational institutions, and the high expense of this kind of education. Additionally, the outcomes supported the infrastructure's shortcomings, including access issues, network issues, and energy issues. And a lack of digital proficiency, all of which pose significant difficulties for remote learning.

Joshi and Bhaskar's (2020) goal was to shed light on the difficulties that the Covid-19 epidemic presented for instructors in India as a result of shifting learning preferences. The study employed a qualitative research technique that involved conducting in-depth, semi-structured interviews with (19) instructors to get information on the challenges they face when delivering instruction and administering assessments online.

The findings showed that there were four major obstacles for teachers to overcome when conducting online instruction and assessment: inadequate infrastructure, frequent Internet outages during instruction and assessment, a lack of training, and a lack of technical support from educational institutions. Alam (2020) made an effort to identify the difficulties posed by distance learning under the The study adopted a qualitative methodology, and information was gathered from secondary sources including recently published journals and newspapers in addition to brief interviews with a number of private university students who used their mobile phones to study a variety of subjects. The findings of the study demonstrated that online learning presents a number of significant difficulties for the two key stakeholders teachers and students.

Through the use of the educational platforms that were available, such as the electronic gate and Microsoft Teams for public schools, which can be used for Internet education and direct communication, Basilaia and kvavadze (2020) investigated the degree of continuity of the learning process at schools using remote education under the Covid-19 pandemic. An investigation of a Georgia school that utilized online learning and comprised 950 pupils. The outcomes validated the effectiveness of quick transfer to online learning. Since the existing educational curriculum are not created to be applied using e-learning platforms, the results also showed that conventional (face-to-face) education was discovered to be more effective than remote education. It can be inferred from the previously presented studies that the majority of them concentrated on the difficulties that teachers faced as a result of pandemic, with the absence of a study that examined the difficulties that students in practical education and vocational education in general faced as a result of the pandemic. Due to the fact that vocational education is particularly affected by the Education is centered on students learning a set of practical abilities, hence it calls for teaching methods and techniques that ultimately help to reinforce the students' practical knowledge. Epidemic, this makes the current study a step towards investigating and assessing the effects of vocational education.

Methodology and Procedures

The current study is a descriptive one that used a descriptive analytical technique to identify the difficulties that students enrolled in vocational education confront at Jordan's Vocational Training Corporation.

Study Sample

The methodological step called sample selection involves selecting a statistically representative sample from the population under study. Since it is very difficult

to reach the entire study population, especially when the number is very large, sample selection is believed to be a key tool for research investigations. Therefore, the researcher chooses the sample so that it reflects the study population statistically. A sample of (200) male and female students majoring in vocational education was chosen from students at Irbid Private University, 290 students, Al-Balqa University, Al-Hosn University College, 455 students, and Shobak University College, 255 students. The study sample was chosen at a rate of 20%, amounting to 1,000 students. which helps in providing an accurate scientific answer to the study's questions. The research sample for the current study was randomly selected from (60) students from Irbid Private University and (90) from Al-Balqa University, Al-Hosn University College. Shobak University College, (50) students this random selection allows equal inclusion of all participants in the research community.

Research Instrumentation

The questionnaire serves as the primary tool for gathering primary, quantitative data by creating a number of questions that are intended to uncover the information that the study is trying to elucidate. A questionnaire makes it possible to gather quantitative data uniformly, ensuring that the results are internally consistent and coherent for analysis. For a questionnaire to be observable and capable of measuring what it is designed to test, it must always be connected to a clear purpose linked to the study objectives, Roopa and Rani, (2017:273). The questionnaire for the present study was created using the following steps:

Reviewing pertinent research and earlier studies that looked into issues related to remote learning. This helped to provide a clear primary vision on how to decide which areas the present investigation should measure. Several university professors were consulted, and their opinions were collected and organized in accordance with the questionnaire-building process and in line with Jordan's experience with remote employment. The questionnaire originally had (16) items divided into two categories: infrastructural difficulties (8 items), and students' challenges (8 items).

Apparent Validity

The degree to which the questionnaire's overall appearance suggests that it can measure the things it is designed to test is known as apparent validity. So, according to Roopa and Rani (2017), apparent validity is a type of validity that is qualitatively evaluated by sending the questionnaire to a panel of experts. The current study's questionnaire was therefore submitted to ten skilled and knowledgeable reviewers from Jordanian institutions.

Construct Validity

The scale was used on a sample of (200) male and female research participants as part of an exploratory sample with the goal of confirming the construct validity indicators. Using Pearson correlation coefficients between each item and the domain to which it belongs as well as with the entire scale, the construct validity indicators have been determined. According to the Pearson correlation results, the items in the domain "infrastructure challenges" had correlation coefficients ranging from (0.541) to (0.727) and a total scale from (0.307) to (0.644), while the items in the domain "student challenges" had correlation coefficients ranging from (0.557) to (0.787) and a total scale from (0.425) to (0.628).

Additionally, the two's inter-correlation coefficients Using Pearson correlation, the questionnaire's domains were determined to vary between 0.303 and 0.580, while the correlation coefficients between the domains and the overall scale varied between 0.650 and 0.844. The construct validity of the scale is demonstrated by the statistical significance of all generated correlation coefficient values at the significance level ($= 0.05$).

Test-retest Reliability

The study instrument was administered to a group of (16) male and female students who were not part of the study sample and then administered again to the same group with a gap of two weeks in between the two applications. The two apps' Pearson correlation coefficients were determined. The internal consistency approach was used to compute the dependability coefficient in accordance with the Cronbach's alpha equation. Table 1 displays the test-retest reliability coefficients for the domains and the entire scale, as well as the internal consistency coefficient based on Cronbach's alpha equation. These coefficients' values were thought to be suitable for the goals of this investigation.

Table 1. Internal consistency coefficients (Cronbach's alpha) and test-retest reliability coefficients for the Domains and the total scale

Domain	Number of items	Test-retest reliability	Cronbach's alpha
Irbid Private	6	0.94	0.76
Al-Balqa University(Al-Hosn University College, Shobak University College)	10	0.90	0.74
Total	16	0.87	0.83

Statistical Criterion

The responses of the study sample were corrected using a five-point Likert scale by assigning each response one of the five possible grades (strongly agree, agree, neutral, disagree, strongly disagree), which correspond to the numbers (5, 4, 3, 2, and 1), respectively. Following the adoption of the statistical model of relative grading, the responses of the sample members were categorized in order to assess the arithmetic means of the tool items and domains as follows: Low: 2.49 or less; Moderate: 2.50–2.49; High: 3.50 or higher.

Study Results

This study aimed to identify the difficulties faced by students in vocational education. The results of the investigation will be presented in this section. What infrastructure-related issues do vocational education students at the university have to deal with? Frequencies, percentages, arithmetic means, and standard deviations were extracted for the infrastructure issues faced by vocational education students at the university in order to provide a response to this topic.

Table 2 provides an illustration of the results.

No.	Item	Very low		Low		Intermediate		High		Very high		Arithmetic mean	Standard deviation	Degree
		N	%	N	%	N	%	N	%	N	%			
1	Absence of infrastructure readiness in Vocational Training Corporation(required programs, materials, equipment) for practical training through the Internet	280	21.5	553	45.9	260	21.5	100	6.07	34	3.0	4.83	0.895	High
2	Incompatibility of computers and mobile phones used by students with practical training	217	17.3	637	62.3	218	18.4	50	11.83	6	0.5	3.83	0.913	High
3	Slowness of the Internet, increasing the difficulty of remote training	238	18.0	589	48.9	238	18.0	50	12.41	30	1.8	3.81	0.842	High
7	Lack of availability of materials, tools and instruments for conducting practical training by remote learning	198	167.4	5782	48.7	187	17.4	100	16.41	59	4.1	3.71	1.036	High
No.	Item	Very low		Low		Intermediate		High		Very high		Arit	Standar	Degree
		N	%	N	%	N	%	N	%	N	%			

5	Incompatibility of practical training programs with remote learning	218	17.3	466	38.7	100	17.3	226	17.83	59	5.0	3.56	1.075	High
6	Difficulty of accessing IT and communication materials by students	167	15.0	520	43.5	50	15.0	312	17.83	31	2.6	3.52	0.956	High
4	Absence of focusing on activities and practical performance	136	12.4	465	38.6	50	12.4	362	28.33	98	8.4	3.28	1.118	Intermediate
8	Difficulty of accessing the links used for lectures through the Internet	98	8.4	227	19.1	100	8.4	120	57.8	100	8.42	2.74	1.176	Intermediate
	Infrastructure challenges as a whole											3.52	0.653	High

Table 2 shows that the arithmetic means ranged between (2.73) and (3.83), where items (1, 2, 3, 5, 6 and 7) came with high degrees, while items (4 and 8) scored intermediate degrees. The arithmetic mean of the infrastructure challenges domain as a whole amounted to (3.51), which corresponds to a high degree of challenge. Results related to the second question: What are the challenges related to students that face vocational education students under the Covid-19 pandemic in the Vocational Training institutions? To answer this question, frequencies, percentages, arithmetic means and standard deviations of the challenges related to students of vocational education in the Vocational Training institutions under, the Covid-19 pandemic were extracted. The results are shown in Table 3.

Table 3. Frequencies, percentages, arithmetic means and standard deviations of the challenges related to vocational education students in the Vocational Training institutions

No	Item	Very low		Low		Intermediate		High		Very high		Arithmetic mean	Standard deviation	Degree
		N	%	N	%	N	%	N	%	N	%			
1	Weakness of computer skills of students	261	22.7	586	47.0	276	21.2	100	6.4	22	1.8	3.82	0.908	High

2	Difficulty of implementing practical activities through web applications	312	25.8	527	43.7	208	17.5	100	8.7	48	4.2	3.78	1.053	High
No	Item	Very low		Low		Intermediate		High		Very high		Arithmetic mean	Standard deviation	Degree
		N	%	N	%	N	%	N	%	N	%			
4	Difficulty in using interactive applications (e.g. Zoom Inc., Microsoft Teams)	100	22.4	541	45.1	262	21.7	121	10.3	11	0.7	3.77	0.935	High
7	Difficulty in communication between teacher and students	100	16.4	605	50.4	279	21.4	95	7.7	38	3.1	3.68	0.936	High
5	Reliance by the teacher on explanation more than training	194	16.2	508	41.4	318	26.7	121	10.1	58	4.8	3.55	1.031	High
8	Lack of availability of students' motivation towards remote education	199	16.8	472	39.5	284	23.4	167	13.4	84	7.2	3.46	1.128	Intermediate
3	Difficulty in students' access to the Vocational Training Corporation platforms (e.g. electronic education)	151	12.6	508	42.6	271	22.6	168	13.4	102	8.3	3.38	1.1259	Intermediate
6	Lack of availability of practical training during remote learning	123	10.4	417	34.6	414	34.3	193	16.6	55	4.6	3.32	1.008	Intermediate
	Students' challenges as a whole											3.58	0.6378	High

Table 3 shows that the arithmetic means ranged between (3.30) and (3.81), where items (1, 2, 4, 5 and 7) came with high degrees, while items (3, 6 and 8) scored intermediate degrees. The arithmetic mean of the students' challenges domain as a whole amounted to (3.59), which corresponds to a high degree of challenge. Results related to the third question: Does the nature of the challenges related to infrastructure facing vocational education students in the Vocational Training institutions under, pandemic differ according to the gender variable? In order to answer this question, the arithmetic means and standard deviations of

the infrastructure challenges facing vocational education students in the Vocational Training institutions due to the gender variable were extracted.

To show the statistical differences between the arithmetic means, t-test was used and the results are shown in Table 4. Table 4. Arithmetic means and standard deviations and t-test results of the impact of gender on the infrastructure challenges facing vocational education students in Vocational Training institutions.

Table 4. Pandemic

	Gender	Number	Arithmetic mean	Standard deviation	t	Degrees of freedom f	Statistical significance
Infrastructure challenges	Male	40	3.52	0.712	-.452	248	0.649
	Female	20	3.54	0.745			

From Table 4, it is evident that there are no statistically significant differences at (0.05) that could be attributed to the gender variable in the infrastructure challenges facing vocational education students in the Vocational Training institutions

Results related to the fourth question: Does the nature of the challenges related to students facing vocational education students in the Vocational Training institutions under the Covid-19 pandemic differ according to the gender variable?

In order to answer this question, the arithmetic means and standard deviations of the students' challenges facing vocational education students in the Vocational Training institutions due to the gender variable were extracted. To show the statistical differences between the arithmetic means, t-test was used and the results are shown in Table 5.

Table 5. Arithmetic means and standard deviations and t-test results

	Gender	Number	Arithmetic mean	Standard deviation	t	Degrees of freedom f	Statistical significance
Students' challenges	Male	90	3.72	0.571	0.736	237	0.4621
	Female	50	3.44	0.531			

Table 5 shows that there are no statistically significant differences that could be attributed to the gender variable in the students' challenges facing vocational education students in the Vocational Training Corporation.

Discussion of Results

The findings showed that both on student and infrastructure-level, vocational education students at vocational training institutions confront significant difficulties. This can be ascribed to the epidemic forcing educational institutions to adapt new teaching methods in an effort to preserve social distance and lessen the pandemic's effects. As a result of the pandemic's speedy and widespread spread, these new educational approaches were hastily developed, and as a result, they were not tailored to the various needs and circumstances of the pupils. For instance, the students' use of the Internet was often interrupted, and they had to rely almost entirely on their cell phones to continue their remote study. However, practical instruction necessitates the availability of certain materials, tools, and equipment that cannot be given through distance learning. This means that in order to acquire vocational skills, students must first engage

in practical activities and then repeatedly practice those skills until they are mastered. This can't be done through remote learning, where the student's role is limited to receiving vocational knowledge without engaging in the teaching-learning process.

Additionally, the study's findings showed that there are no statistically significant differences in the degree of challenges faced according to the gender variable, indicating that male and female students face the same challenges because they are all being taught through distance learning. As a result, both sexes are falling behind academically. Due to the same difficulties, there were no statistically significant gender-related differences.

Recommendations

The research suggests the following in light of its findings:

- 1- Developing education and training by upgrading the infrastructure of the vocational training facility.
- 2- Increase the institution's financial backing so it may carry out its vocational training programs in a very effective way.
3. The need to thoroughly analyze the educational policies that the Vocational Training Corporation has authorized in order to ensure that they support the requirements for distant learning.
- 4- The importance of focusing on skills acquisition and mastery rather than the theoretical side of the desired abilities by giving genuine possibilities for vocational education. This is due to the fact that having practical skills rather than just academic knowledge is what determines one's success in the work market.

References

- Alhameed, A. (2021) Challenges and Possibilities of Online Education during. Preprints, 2020060013. <https://doi.org/10.20944/preprints202006.0013.v1>.
- Al-Mahasneh, O. (2017). Problems that face students in the specialty of pre-vocational education during the practical training. *Dirasat: Educational Sciences*, 42(1).
- Al-shame, R. (2021). Traditions' Reformation and Social Change in Light: Jordan as a case study. *RIIFS Bulletin, the Royal Institute of Inter-Faith Studies, Amman, Jordan*.
- Al-tarefe, A. (2019). Proposed Solutions for the Improvement of Societal Attitudes towards Vocational Education from the Perspective of Experts in Jordan. *Dirasat: Educational Sciences*, 40(2), 1493-1510.
- Al-Zoubi, Abd. (2015). The Obstacles of Field Training from the Perspective of Class Teacher Students Who Are Training at The World Islamic Sciences and Education University. *Al-Manara Journal, Al al-Bayt University*, 22(4), 9-22.
- Badawy, Mohamed Fawzy Ahmed (2015). Obstacles to the use of E-learning management systems (LMS) by faculty members at Menoufia University from their point of view. *Journal of Educational and Psychological Research*. 69-146(4)30
- Bashir, K. (2019). Modeling E-learning interactivity, learner satisfaction and continuance learning Intention in Ugandan higher learning institutions. *International Journal of Education and Development using Information and Communication Technology*.
- Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research*, 5(4).

- Cahill, Rosann (2018). What motivates faculty participation in e-learning: A case study of complex factors. Ph.D. dissertation, University of St. Thomas. (Publication No. AAT3340549)
- Campbell, D., & Stanley, J. (1991). *Experimental and Quasi-experimental Designs for Research*. Geneva, Ill., Hopewell, N.J., Palo Alto, London.
- Di Pietro, G., Biagi, F., Costa, P., Karpiński, Z., & Mazza, J. (2020). The likely impact of COVID-19 on education: Reflections based on the existing literature and recent international datasets (Vol. 30275). Luxembourg: Publications Office of the European Union.
- Ferreiman. J. (2022). 10 Benefits of Using Elearning. LearnDash. <https://www.learndash.com/10-benefits-of-using-elearning/>
- General Organization for Vocational Training. (2019) Annual Report. Amman, Jordan
- Ghulam, Kamliya (2017), Obstacles to E-Learning in SAUDI Universities: Application to King Abdulaziz University in Jeddah. www.kau.edu.sa
- Gonzalez, T., De La Rubia, M. A., Hincz, K. P., Comas-Lopez, M., Subirats, L., Fort, S., & Sacha, G. M. (2020). Influence of COVID-19 confinement on students' performance in higher education. *PloS one*, 15(10), e0239490.
- Hetsevich. I. (2017). Advantages and Disadvantages of E-Learning Technologies for Students. joomlalm.com. <https://www.joomlalm.com/blog/guest-posts/elearning-advantages-disadvantages.html>
- <http://jolt.merlot.org/vo/5no/mills-0309.htm> Koumi, J (2006). *Designing Educational Video and Multimedia for Open and Distance Learning*. Routledge, England.
- Inyiagu, E. E. (2014). Challenges facing technical and vocational education in Nigeria. *Journal of Educational Policy and Entrepreneurial Research*, 1(1), 40-45.
- Joshi, A., Vinay, M., & Bhaskar, P. (2021). Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments. *Interactive technology and smart education*, 18(2), 205-226. <https://doi.org/10.1108/ITSE-06-2020-0087>.
- Majid, U. (2018). Research fundamentals: Study design, population, and sample size. *Undergraduate research in natural and clinical science and technology journal*, 2, 1-7.
- Mills, Shirley J., Yanes, Martha Jeane; Casebeer, Cindy M. (2019). Perceptions of Distance Learning Among Faculty of a College of Education. *MERLOT Journal of Online Learning and Teaching*, Vol. 5, No. I, March 2009.
- Ndahi, H. (2020). The impact of the COVID-19 pandemic on the delivery of TVET in CARICOM Member States. The International Labour Organization.
- Onyema, E. M., Eucheria, N. C., Obafemi, F. A., Sen, S., Atonye, F. G., Sharma, A., & Alsayed, A. O. (2020). Impact of Coronavirus pandemic on education. *Journal of education and practice*, 11(13), 108-121.