The impact of the shift to distance learning on the seven principles of good practices in university education in light of the COVID-19 pandemic

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Abstract

This study aimed to know the level of impact of the shift to distance learning on the seven principles of good practices in university education taking the novel coronavirus COVID-19 pandemic into consideration from the viewpoint of students of faculties of education. The research method used for this study was descriptive, a well-structured questionnaire was developed for this, which was then administered to 435 students. The results revealed that the level of impact of the shift to distance learning on these principles taking the COVID-19 pandemic into consideration from the standpoint of the students was average. The study also revealed that the impact of the transition to distance learning on these principles, taking the COVID-19 pandemic into consideration due to the variables of academic level, appreciation, devices used in distance learning and software used in distance learning, and that there are differences due to the variable type of university in favour of public universities, was not statistically significant. The study recommendations, most notably the development of a national strategy for the development of distance learning to maintain its sustainability after the end of the corona pandemic.

Keywords: Distance learning, good practices, university education, coronavirus (covid-19) pandemic.

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1. Introduction

The development of the educational process of learning is a goal for any university organisation that wants to survive and continue, so universities are constantly keen on setting standards to enhance the standard of the education process in them (Niculescu, 2015). Given that the standard of the system of education is reflected in students' achievement, it ultimately leads to an improvement in the quality of university outcomes. The educational process in higher education institutions includes all teaching and learning activities: planning, execution and evaluation (Moraru, 2014). In an effort to ensure the standard of the educational process in universities with its various activities, the educational literature frames the good practices in university education, and puts them in the form of guiding principles for the work of the university professor.

The constructivist model emphasises that learners must be active participants in the educational process, and that new knowledge must be linked to existing knowledge; and in this way, the learner builds new knowledge while learning (Gold, 2011). The "seven principles of good practice in university education" is one of the most well-known constructivist models in university education.

Chickering and Gamson (1987) noted that the seven principles of good practice in college education are as follows: "encourages contact between students and faculty; develops reciprocity and cooperation among students; encourages active learning; gives prompt feedback; emphasizes time on task; communicates high expectations; respects diverse talents and ways of learning". These principles have been identified on the basis of the researches carried out on teaching and learning in universities, which can help improve university education. The Johnson Foundation has published a document on helping universities determine whether their teaching practices are in line with these principles (Pugh & Hall, 2008).

Yulia (2020) points out that distance learning will likely be the most influential mode of education in time to come, since the present generation is characterised by its fondness for smart devices coupled with the utilization of several applications; and for this reason, technology integration in education has become a universal drift, and direct involvement with learning activities via mobile devices has become a factor – an inducement for learning in lieu of just conventional study.

Distance learning constitutes a pattern in which educational materials are reproduced electronically, and then published using any technical means in order to enhance communication between teachers and learners and between learners and the educational institution, where students can interact with educational content at any time in proportion to their learning needs (Al-Akhras, 2018).

Hathaway (2020) indicated that distance learning can be designed utilizing the "seven principles of good practice in undergraduate education", wherein each principle can benefit and put forward ways in which the principle can be implemented effectively. Crews et al. (2015) indicated that these principles can be transferred well to distance learning, and can help faculty members who study remotely know how to move from teaching what they usually teach in person. Until they teach it remotely, the results of their study showed that the students rated all seven principles as important in the design of distance education courses, and the students indicated high levels of agreement that the material taught remotely can embody these seven principles in it, which indicates the importance of these components in the design of distance learning. The results showed that cooperation between students and the emphasis on task time received lower degrees of attention from the students' point of view, which means that these principles need more attention when designing distance learning.

Previous studies have indicated that the availability of the "seven principles of good practices in undergraduate education" is evidence of the quality of the design of distance-taught courses, which must be reflected on students' performance (Crews et al., 2015), and provides the optimum benefit to students

(Johnson, 2014); the study (Hathaway, 2020) showed the benefit of each of the seven principles in distance learning if they are effectively applied.

As a result of the conditions that the world is currently experiencing - represented by the spread of the coronavirus, which had a significant impact on the teaching- learning process - all of a sudden, institutions of learning are compelled to adjust to distance learning to guarantee the unbroken and consistent existence of the teaching and learning processes, and to utilize smart devices and internet connectivity in remote communication with students (Yulia, 2020). Consequently, turning to distance education was the fastest course of action so as to preserve the educational system, after the coronavirus crisis overshadowed the education sector. It prompted institutions of learning, as well as universities, to shut their doors in order to minimize the spread of the virus, which raised major concerns within this sector (Bozkurt et al., 2020).

Ghanayem (2020) referred to several scenarios related to distance learning in the Arab world taking the COVID-19 pandemic into consideration. First, is an optimistic scenario that expects the crisis to end soon with an effective vaccine that ends the crisis and returns life to normal and education returns to its previous nature; second, human and material capabilities to manage the crisis; and the third is a pessimistic scenario that includes the continuation of the crisis for a long, uncalculated period, which is the most difficult scenario and requires the promotion and continuation of distance learning.

1.1. Study problem and questions

Countries, including Jordan, have adopted distance learning as a means to ensure the continuity of education and learning for students in universities to guarantee their scientific posterity, as rapid plans have been developed to sustain the unbroken and continuous existence of the educational learning process, and to minimize the effects of the COVID-19 pandemic on university education by adopting the distance learning system for a period exceeding three semesters, in order to enable all students to round up their studies as at when due notwithstanding the coronavirus pandemic so as to adopt a mechanism that guarantees the rights of students and guarantees the minimum quality of education, including the development of legislation that frames and establishes distance learning. The subjects in the study plans were divided into face-to-face, distance-taught (synchronous and asynchronous) and other subjects that mixed conventional and distance learning (blended education).

The study of Murad and Mahasna (2020) indicated that the level of students' appreciation of the teaching practices of faculty members came to a medium degree; Kazem's (2021) study corroborated that the extent of students and faculty members recognition and acknowledgment of the reality of distance learning in consideration of the COVID-19 pandemic was medium; the study of Abdul-Hussein and Ibrahim (2020) emphasised the need for a comprehensive and continuous evaluation of distance education systems, while the study of Abu Shkhaydam et al. (2020) emphasised the importance of evaluating distance learning experiences.

Based on the foregoing, the problem of the study was determined to know the impact of the shift to distance learning on the "seven principles of good practices" in university education considering the pandemic from the opinion of students of faculty of Educational Sciences in Jordanian universities, and in particular, the study seeks to give answers to the following questions:

- What is the level of impact of the shift to distance learning on the "seven principles of good practices" in university education taking the coronavirus COVID-19 pandemic into consideration from the standpoint of students of faculties of education in Jordanian universities?

- Are there statistically significant differences in the arithmetic means of the respondents' response (study sample) at the level of the impact of the transition to distance learning on the "seven principles of good

practices" in university education taking into consideration the coronavirus pandemic from the view of students of faculty of educational sciences in universities in Jordan as a result of the variables (academic level, appreciation, the type of university, the hardware used in distance learning and the software used in distance learning)?

2. Methodology

2.1. Research method

The study made use of the descriptive survey method to identify the level of impact of the shift to distance learning on the "seven principles of good practices in undergraduate education" considering the COVID-19 pandemic from the perspective of the students of faculty of educational science in universities in Jordan, for its suitability to achieve the study objectives.

2.2. Sampling

The study population comprised students from the faculty of educational science in Jordanian universities - Mutah State University and Jerash Private University, who numbered 1,292, including 1,038 students from the Faculty of Educational Sciences, Mu`tah University and 254 students from the Faculty of Educational Sciences, Jerash Private University. A sample of them was selected. The stratified random method reached 435 students, including 281 students from the Faculty of Educational Sciences, Mutah University Jordan and 154 from the Faculty of Education, Jerash University, Jordan.

2.3. Study tool

To attain the desired result of this study, a questionnaire was developed by referring to the "Seven Principles of Good Practice in Undergraduate Education" recommended by Chickering and Gamson (1987), and the answer to the paragraphs of this tool was formulated based on the 5-point Likert scale consisting of five choices, ranging between not fully agree and agree, with a total relative weight (5–1). The study's questionnaire consisted of 39 items divided into 7 areas: encouraging communication between students and faculty; encouraging students to cooperate with each other; encouraging active learning providing students with immediate feedback; adding time to effort, high hopes; talents of many different varieties; and different ways of learning.

2.4. Validity of the Research Instrument

To assess the degree to which the research instrument of the study measured what it was designed to, accordingly, the validity of the content was used. The study tool was presented in its initial form to a group of experienced and specialised arbitrators, numbering 10 arbitrators. They were asked to express their opinions about the comprehensiveness of the paragraphs, their belonging to the field, the appropriateness of the linguistic formulation, the clarity of the paragraphs and add or delete or modify as they see fit.

2.5. Reliability of Study tool

To guarantee this, the reliability was confirmed by the test–retest reliability method by giving the same test twice in two weeks interval to a sample group of 30 people, outside the study sample, after which, the "Pearson correlation coefficient" between the estimates (first and second tests) was calculated. The "Cronbach's alpha equation" was used to estimate the internal consistency, and the results showed that the repeatability of the fields ranged between 0.73 and 0.82 and the total score was 0.86, while the internal consistency coefficient of the fields ranged between 0.70 and 0.80. These estimates were deemed suitable for the study purposes.

2.6. Study tool correction method

The tool was applied by asking the members of the study sample to individually answer the questionnaires which were consisted of 5-point Likert scale questions, so that they choose a choice of five (exactly agree, agree, agree with a little degree, disagree and completely disagree) and the scores are given as 5, 4, 3, 2 and 1, respectively, and the level in the study tool was judged based on the following equation:

Highest value – lowest value/levels

= 5 − 1/3 = 4/3 = 1.33

So the judgment criterion is as follows:

Average	The level relative to the average
1.00–2.33	Low
2.34–3.67	Medium
3.68 and more	High

2.7. Statistical processing

Arithmetic mean and standard deviation were utilizd in answering the first and second questions; also in answering the second question, a one-way analysis of variance (ANOVA) was utilized.

3. Results and Discussion

The results related to the first question and its discussion: What is the level of impact of the shift to distance learning on the seven principles of good practices in university education taking the coronavirus pandemic into consideration from the standpoint of students of the faculty of educational sciences in universities in Jordan?

For the question to be answered, the "arithmetic means" and "standard deviations" of the responses of the study sample members were extracted on the level of the impact of the transition to distance learning on the "seven principles of good practices" in university education taking the COVID-19 pandemic into consideration from the standpoint of students of faculty of educational sciences in Jordanian universities, as presented in Table 1.

Table 1. Arithmetic mean (x) and "standard deviations" (sd) of the level of impact of the transition to distance learning on the seven principles of good practices in university education in consideration of the coronavirus pandemic from the viewpoint of students of faculty of educational sciences, with the arithmetic means placed in descending order

Rank	Number	The field	Mean	Standard deviation	Impact factor
1	1	Encouraging communication between students and faculty members	3.36	0.91	Medium
2	6	High expectations	3.34	0.89	"Medium
3	2	Encouraging students to cooperate with each other	3.32	0.91	Medium
3	7	Diverse talents and different ways of	3.32	0.94	Medium

Rank	Number	The field	Mean	Standard deviation	Impact factor
		learning			
5	3	Encouraging active learning	3.28	0.95	Medium
5	5	Add time to effort	3.28	0.96	Medium
7	4	Provide students with immediate feedback	3.26	0.98	Medium
		Total marks	3.31	0.85	Medium"

As presented in Table 1 above, it reveals that the "arithmetic mean" of the responses of respondents to the fields of study ranged between 3.26 and 3.36, where the field of encouraging communication between students and faculty members ranked first with the highest mean of 3.36±0.91, with a medium impact level, while the high expectations domain ranked second with a mean of 3.34±0.89 and a medium impact level, and the two fields of encouraging students to cooperate among themselves, and the field of diverse talents and different ways of learning ranked third place with mean of 3.32±0.91 and 3.32±0.94, respectively, with a medium effect level, and the domains of encouraging active learning and adding time to effort came in the fifth order, with an arithmetic mean of 3.28 and a standard deviation of 0.95 and 0.96, respectively, with a medium impact level, and the field of providing students with immediate feedback ranked seventh and last, with a mean of 3.26±0.98 and a medium impact level.

The arithmetic mean of the level of impact of the transition to distance learning on the "seven principles of good practices" in university education taking the COVID-19 pandemic into consideration from the standpoint of students of faculty of educational sciences in universities in Jordan as a whole was 3.31, with a standard deviation of 0.85 and an average effect level.

The average level of the impact of the shift to distance learning on the "seven principles of good practices" in university education taking into consideration the coronavirus pandemic may be attributed from the viewpoint of faculty of educational science students in Jordanian universities as a whole, large because of the transition from conventional education to online learning came suddenly, after it became an urgent necessity in light of the outbreak of the pandemic that swept the world, which led to the suspension of working hours in educational institutions, including universities, and the shift to distance learning without adequate preparations from universities, which was reflected in its beginnings on the quality of education provided to students for not dealing with this type of learning competitively by the teacher and the student.

It may also be attributed to the fact that the distance learning experience in Jordanian universities is a new one, and it was not accepted before the outbreak of the pandemic, neither by the academic community, nor by society in general, and the university's previous experience in the field of distance learning did not exceed e-learning in the classroom or computerisation. Some subjects were of the university's compulsory requirements; this shift came to constitute an additional academic burden on faculty members who are not trained to use distance learning software, on universities that lack the necessary infrastructure for distance learning and on students who live in remote areas where coverage services are not available The Internet was well established, or because of the economic conditions of students that prevented them from purchasing Internet services, so the experience at the beginning was

difficult, and it required training faculty members on distance learning, providing universities with the necessary infrastructure for it and providing free Internet packages for students by their universities. This affected, in one way or another, the good practices of university education from the students' viewpoint and limited its effectiveness, especially at the beginning of the experiment.

This result agreed with the outcome of the study carried out by Abu Shkhaydam et al. (2020), who showed that the evaluation of the study sample on the effectiveness of e-learning in view of the transmission of the novel coronavirus was moderate. The outcome of the study carried out by Aouaba and Saleh (2020) revealed that there is an acceptable readiness for distance learning among university students. Al-Omari's (2020) study revealed that the extent to which universities use e-learning system, from the students' standpoint came to an average degree.

With regard to the fields, it may be attributed to the fact that the field of 'encouraging communication between students and faculty members' ranked first with a medium level of influence because the distance learning style was not accustomed to students previously nor to faculty members, and therefore, opportunities for communication between students and faculty members were in education in Al-Wajahi is more available through face-to-face lectures, and office hours for faculty members through which communication with students is made in a way that allows faculty members to identify students with academic or behavioural problems or considers the faculty member himself as an informal mentor for students, and thus learn about a moderate degree of encouraging communication between students and faculty members in the education faculties in Jordanian universities from the students' perspective.

While the field 'high expectations' ranked second and with a medium level of influence, distance learning limited to a certain degree the ability of faculty members to urge students to work continuously, due to the lack of communication with all of them at the same time, which is provided by face-to-face education. To limit the use of various teaching strategies that take into account individual differences between students, and to limit opportunities to identify distinguished and weak students, and deal with them directly, in addition to the weak knowledge of some faculty members on how to use educational programmes such as Microsoft Teams, Zoom and other programmes in communication. With students, giving and evaluating assignments electronically, limiting attendance, absence and student interaction and limiting the giving of lecture, may be devoid of interaction between students and the teacher, in addition to the social dimensions and economic conditions for students that do not allow cameras to be opened during lectures for fear of the student's privacy in his home, which may not be equipped or equipped with a special room for study or the presence of the student in a room with the rest of the family, which prevents the process of verbal and non-verbal interaction.

This is in line with the educational literature that deals with distance learning, which indicated that in spite of the numerous advantages of distance learning, it has a lot of disadvantages, which include inaccessibility and loneliness, which is as a result of students' interaction with their personal computers and smartphones rather than their direct communication and interaction, the limited instructional materials/notes to the student via the Internet and his dependence on technology greatly. In spite of the fact that distance education is available to all, it is not accessible to many individuals (due to lack of personal computers, smartphones, or a good internet connection), as well as the likelihood of members of the faculty to focus on theoretical rather than practical aspect of a course via the Internet; coupled with the fact that distance education is devoid of a direct physical communication; and the morale and organisation is low, it may be difficult for some individual to motivate themselves to learn the lack of acceptance of this style of education by societies, with regards to its ability to provide quality education, and the limited provision of an attractive and interactive study environment that raises the response of students to this sort of education (Hetsevich, 2017).

As for the domains items, the arithmetic means and "standard deviations" of the responses of the study sample members to the items of each domain alone were extracted, arranged in descending order and the impact level was shown for each item, as presented in Tables 2, 3, 4, 5, 6, 7and 8

Table 2. Arithmetic mean (x) and "standard deviations" (sd) of the respondents' responses to the items of field 1 Encouraging communication between students and faculty members arranged in descending order

The number of the paragraph	Order	Paragraphs	Average	Standard deviation	The impact factor
6	2	Reducing the chances of the teacher seeing himself as an informal mentor to the students.	3.43	1.12	Medium
1	2	Reducing the opportunities for direct teacher communication with students to identify the goals they want to achieve educationally and professionally.	3.43	1.25	Medium
4	4	Limit opportunities to share the teacher's previous attitudes, experiences and values with students.	3.38	1.20	Medium
3	5	Reducing the opportunities for the teacher to advise students about the opportunities available to work in their field of specialisation.	3.29	1.11	Medium
5	6	Reducing the chances of the teacher getting to know the students by name.	3.00	1.07	Medium

Table 3. Arithmetic mean (x) and "standard deviations" (sd) of the respondents' responses to the items of field 2 Encouraging students to cooperate with each other arranged in descending order

The number of the paragraph	Order	Paragraphs	Average	Standard division	The impact factor
3	1	Reducing opportunities for the teacher to encourage students to exchange views on the topics discussed in class.	3.40	1.07	Medium
4	2	Limiting the teacher's ability to form learning communities, study groups and work teams in the subjects he teaches.	3.34	1.16	Medium
1	3	Reducing the opportunities for teachers to urge students to partake in activities that enable them to get acquainted with one another.	3.32	1.13	Medium

2	4	Limit opportunities for the teacher to use collaborative teaching and learning strategies.	3.23	1.20	Medium
5	5	Reducing the teacher's ability to distribute the scale of performance evaluation of students to everyone, so that the score of each student is independent of the scores of other students, and expressive of his effort and activity.	3.20	1.12	Medium

Table 4. Arithmetic mean (x) and "standard deviations" (sd) of the respondents' responses to the items of field 3 Encouraging active learning arranged in descending order

The number of the paragraph	Order	Paragraphs	Average	Standard deviation	The impact factor
5	1	Reducing the teacher's opportunities to encourage students to suggest new topics to read in the classroom and projects and activities related to the subject to carry out outside the classroom.	3.37	1.17	Medium
3	2	Reducing the opportunities for the teacher to encourage the students to discuss his ideas, the ideas of other students or the ideas raised by the comments or teaching aids that are at the heart of the material.	3.30	1.15	Medium
4	3	Reducing the teacher's opportunities to give students vivid and concrete situations for analysis.	3.26	1.10	Medium
2	4	Reducing the teacher's chances of asking students to research the relationship between current and external events and the topics covered in the subject he is studying.	3.18	1.10	Medium
1	5	Reducing the teacher's opportunity to ask students to present their work to their colleagues.	3.10	1.11	Medium

Table 5. "Arithmetic mean" (x) and "standard deviations" (sd) of the respondents' responses to the items of field 4 : Provide students with immediate feedback arranged in descending order

The number of the paragraph	Order	Paragraphs	Average	Standard deviation	The impact factor

1	1	Reducing the opportunities for the teacher to provide direct feedback to the students after the completion of the lecture activities.	3.30	1.15	Medium
5	2	Reducing the opportunities for the teacher to discuss the results of class assignments and exams with students and with the class.	3.26	1.14	Medium
2	3	Limiting the teacher's opportunity to provide students with exams and assignments after correcting them and commenting on them as soon as possible within a week of completing them.	3.18	1.17	Medium
4	4	Limit the teacher's opportunity to give students written comments about the strengths and weaknesses of their assignments.	3.15	1.11	Medium
3	5	Reducing the teacher's opportunity to make assessments of students' work throughout the semester.	3.14	1.14	Medium

Table 6. "Arithmetic mean" (x) and "standard deviations" (sd) of the respondents' responses to the items of field 5 : Add time to effort arranged in descending order

The number of the paragraph	Order	Paragraphs	Average	Standard deviation	The impact factor
5	1	Reducing the opportunities for the teacher to meet with students who are late for the deadlines to submit their academic assignments, programmes and other obligations.	3.36	1.11	Medium
4	2	Reducing the opportunity for the teacher to explain to students the consequences of not attending lectures.	3.25	1.09	Medium
3	3	Reducing teacher opportunities to encourage students to prepare early research papers or assignments.	3.20	1.08	Medium
1	3	Reducing teacher opportunities by expecting students to finish their scientific assignments immediately.	3.20	1.14	Medium
2	5	Limiting the opportunities for the teacher by setting the minimum amount of time required of students to prepare for the lecture, and to work on their homework.	3.19	1.10	Medium

Table 7. "Arithmetic means" (x) and "standard deviations" (sd) of the responses of the respondents to the items of field 6 : High expectations arranged in descending order

The number of the paragraph	Order	Paragraphs	Average	Standard deviation	The impact factor
3	1	Reducing the opportunities for the teacher to encourage students to work continuously in the classroom.	3.38	1.09	Medium
5	2	Reducing the chances of the teacher drawing everyone's attention to the outstanding performance of the students.	3.37	1.07	Medium
4	3	Reducing the opportunities for the teacher to inform the students that each student has a different level from the other, and therefore, each one of them should do his best in the lecture, regardless of his level.	3.33	1.05	Medium
7	4	Reducing opportunities for teachers to encourage students to do everything in their power to learn rather than pay too much attention to grades.	3.28	1.04	Medium
6	5	Reducing the opportunity for the teacher to deal with each case of poor performance of the students to encourage them to reach higher levels of performance.	3.28	1.11	Medium
2	6	Reducing opportunities for teachers to provide positive support for students' outstanding work.	3.23	1.12	Medium
1	7	Reducing the chances of the teacher encouraging students to excel in their work.	3.20	1.08	Medium

Table 8. "Arithmetic means" (x) and "standard deviations" (sd) of the respondents' responses to the items of field 7: Diverse talents and different ways of learning arranged in descending order

The number of the paragraph	Order	Paragraphs	Average	Standard deviation	The impact factor
3	1	Reducing the opportunities for the teacher to provide students who do not have sufficient experience and knowledge with the materials and activities necessary to meet their needs.	3.31	1.11	Medium
5	2	Reducing opportunities for the teacher to encourage students to exchange ideas with their classmates.	3.30	1.16	Medium
2	3	Reducing the opportunities for the teacher to diversify the teaching strategies he uses to suit all students.	3.26	1.13	Medium

1	3	Reducing opportunities for the teacher to encourage students to talk to him if they cannot understand.	3.26	1.09	Medium
4	5	Reducing the opportunities for the teacher to develop educational situations so as to grant students the opportunity to see different points of view in education.	3.25	1.06	Medium
6	6	Reducing the opportunities for the teacher to use teaching and learning strategies that adopt the method of cooperation and pairing between different levels of students.	3.22	1.13	Medium

Tables 2, 3, 4, 5, 6, 7 and 8 show that the arithmetic means of the respondents' responses   on the level of the effect of switching to distance learning on the "seven principles of good practices" in university education bearing in mind the coronavirus pandemic from the perspective of students of the faculty of educational sciences in universities in Jordan ranged between 3.00 and 3.54, and all had a medium impact level.

The paragraph reducing the chances of the teacher searching for students who suffer from problems in the study subjects, or who are unable to attend lectures regularly, and discuss them about their educational problems came in the first place in the paragraphs of the study tool with an arithmetic average of 3.54 and an average level of influence This may be ascribed to the numerous number of students in some academic divisions, and the difficulty of non-verbal communication between the teacher and students, which does not provide an opportunity for the teacher to get to know the students' reactions and emotions, in addition to only asking them oral questions and a limited number of those who ask to speak may answer them, followed by the difficulty of holding students accountable for attending lectures, especially in the first period of distance learning, as a result of the novelty of the experience and the special circumstances of the lack of permanent Internet services for students.

Two paragraphs 'reducing the chances of the teacher considering himself as an informal mentor to the students' and 'reducing the opportunities for the direct teacher to communicate with the students to identify the goals they want to reach educationally and professionally' came in the second order having a mean of 3.43 and an average level of influence, all of which were from the paragraphs of the field 'encouraging communication between students and faculty members'. 'Reducing the opportunities for the teacher to encourage students to exchange views on the topics discussed in class' came in third place, with an average of 3.40 and a medium level of influence, and it is from the field of 'encouraging students to cooperate with each other'. This could be as a result of the lack of time allocated to distance learning as a result of the limited capabilities in universities and the weakness of the Internet resulting from pressure on the universities' networks and servers at the time of lectures, in addition to the teachers' preoccupation with attending and preparing for distance learning courses, which reduced their chances of communication with students, and dispensing with the office hours of faculty members designated for communicating with students, which were cancelled due to the prevention of students from entering the university campus in times of comprehensive urbanisation.

 The second question: Does the arithmetic mean of the responses of members of the study sample at the level of the impact of the change to distance learning have statistical significance on the "seven principles of good practices" in university education taking the COVID-19 pandemic into consideration, from the view of students of the faculty of Educational Sciences in universities in Jordan due to the variable of the school

year, and assessment, devices used at distance learning, software used in distance learning, duration of exposure to distance learning and type of university?

To give a response to this question, both the "arithmetic means" and "standard deviations" of the respondents' opinions on the level of the impact of the transition to distance learning on the seven principles of good practices in university education considering COVID-19 pandemic were extracted from the standpoint of students of faculty of educational sciences in universities in Jordan according to the variables of the school year, assessment, the hardware used in distance learning, the software used in distance learning, the duration of exposure to distance learning and the type of university, as presented in Table 9 below.

Table 9. "Arithmetic means" (x) and "standard deviations" (sd) of the level of impact of the shift to distance learning on the "seven principles of good practices in uundergraduate education" in taking rhe COVID-19 pandemic into consideration from the viewpoint of students of faculties of education according to the variables of the school year, assessment, software used in distance learning, duration of exposure to distance learning and type of university

Variable	Levels	Average	Standard deviation	Number
Academic year	First year	3.52	1.01	128
	Second year	3.26	0.72	117
	Third year	3.24	0.76	142
	Fourth year and above	3.08	0.91	48
Rate	Good	3.10	1.19	36
	Very good	3.37	0.63	113
	Excellent	3.31	0.88	286
Programme used for distance learning	Zoom	3.33	0.82	99
	Microsoft Teams	3.30	0.90	228
	University education system	3.32	0.78	108
The duration of exposure to distance learning	One semester	3.43	0.99	129
	Two semesters	3.33	0.59	60
	Three semesters	3.17	0.79	159
	Four semesters and more	3.38	0.89	87
University type	Private	3.17	0.79	154
	Public	3.36	0.87	281

Table 9 presents an obvious discrepancy in the "arithmetic mean" and "standard deviations" of the responses of members of the study sample on the level of the impact of the shift to distance learning on

the "seven principles of good practices" in university education taking the COVID-19 pandemic into consideration from the standpoint of students of faculty of educational sciences in Jordanian universities due to the different categories of year of study, assessment, software used in distance learning, duration of exposure to distance learning and type of university. To indicate the "statistical significance differences" between the "arithmetic means", a one-way ANOVA was utilized, as presented in Table 10 below.

Table 10. Variance analysis of the impact of the school year, grade, devices used in distance learning, software used in distance learning, duration of exposure to distance learning and type of university on the level of impact of the transition to distance learning on the "seven principles of good practice" in university education taking the COVID-19 pandemic into consideration from the perspective of students of faculties of education

Contrast source	Sum of squares	Degrees of freedom	Mean squares	f-value	Statistical significance
Academic year	3.680	3	1.23	1.75	0.16
The rate	1.178	2	0.59	0.84	0.44
Programme used for distance learning	2.514	2	1.26	1.79	0.17
The duration of exposure to distance learning	3.192	3	1.06	1.52	0.21
University type	3.639	1	3.64	5.18	0.02
The error	92.701	424	0.70		
Total	104.830	435			

Table 10 shows that the differences owing to the effect of the school year, are not statistically significant (0.05≥α), where the F-value amounted to 1.75 with a statistical significance of 0.16, and to the effect of the estimate, where the F-value amounted to 0.84 with a statistical significance of 0.44. For the effect of the programme used in distance learning, it reached a value of F = 1.79 with a statistical significance of 0.17, and for the effect of the duration of exposure to distance learning, it reached a value of F = 1.52, with a statistical significance of 0.21.

It shows that there are "statistically significant differences" (0.05≥α) attributable to the effect of the type of university, where the F value reached 5.18 with a "statistical significance" of 0.02, and the differences came in favour of public universities. These differences may be ascribed to the reason that the number of students in subjects in public universities is greater than their number in private universities, and thus this affected the higher level of influence in public universities than in private universities, in addition to the administrative bureaucracy in public universities that delays decision-making related to distance learning and training, providing the necessary human and material resources for it.

This is supported by what Abu Al-Rawi (2020) indicated that there are hinderances that limit the use of distance learning in universities, including the technical obstacles represented by the lack of specialists and the inability of many universities to keep up with the speed of technological developments in the field of education. The financial obstacles that are represented in the lack of financial allocations to universities for the purposes of distance education, and the high material cost of distance education, as well as the economic crises that many Arab countries are going through, and the administrative obstacles represented

in the fact that the management of many universities does not encourage the use of distance learning through routine administrative complexities which hinders distance learning.

4. Conclusions

The ooutcome of the current study revealed that the level of impact of the shift to distance learning on the seven principles of good practices in university education taking into consideration the COVID-19 pandemic from the perspective of students of faculty of educational sciences in Jordanian universities was average; This calls for evaluating the distance learning experience in Jordan to identify its strengths and weaknesses, and to find opportunities for continuous improvement to reduce the effects of good practices of university education according to the use of distance learning, especially since distance learning has become part of university education. The experience of the Corona pandemic has proven the necessity of its development

5. Recommendations

- Developing a national strategy to develop distance learning in Jordanian universities to maintain its sustainability after the pandemic.

- Increasing the effectiveness of academic performance development programmes for faculty members in Jordanian universities in improving these principles in university education, especially in distance learning.

- Providing the necessary human, material and financial resources for the development of distance learning in Jordanian universities.

- Spreading the culture of the importance of distance learning among faculty members, students and society in general by focusing on its importance as a future learning method that the changing circumstances have proven the need for.

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