Predictors of quality of distance education during the COVID-19 pandemic

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ABSTRACT

The aim was to investigate the role of online stakeholder groups, Instructional Design and Student satisfaction in predicting Quality of distance education during the COVID-19 pandemic. A survey method was used . The online stakeholder groups, Instructional Design and Student satisfaction are the IVs, while the dependent variable   is Quality of distance education. Students were selected for data collection. An online questionnaire was used to collect data from the target students. Data were collected via an online questionnaire survey. I shared with students an online link via Facebook and WhatsApp groups to reach most of the University students to fill up the online questionnaire. This study has unique implications for universities as it provides guidelines for universities to implement distance education effectively ,hoping to facilitate students learning. This research study contributes to the literature of distance education. It is a unique study in its handling of variables such as online stakeholder groups, Instructional Design and Student satisfaction as predictors of distance education during the COVID-19 pandemic.

Keywords: online stakeholder groups, Instructional Design ,Student satisfaction ,Quality of distance education

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1. Introduction

Since the end of the year 2019, the world has witnessed a major event that threatened us and targeted our lives which is the spread of the Corona virus. This epidemic originated in China the Chinese province of Wuhan and spread in the parts of the earth(Altun, Salih   Ahmet and Caner ,2021). Life almost stopped in most of its areas in response to the reality imposed by this heavy guest, and its repercussions extended to make life Stress on all health, educational, social, economic and humanitarian levels(Bilgin, and Erha,2021 ;George, 2020).

 As a result of this event, the education sector was exposed to a tremendous crisis, perhaps the most dangerous in contemporary history, as it caused the interruption of more than 1.6 billion children and youth from education in 161 countries during the school year in 2020, and this came at a time when most of these countries are suffering (Altun, Salih , Ahmet , and Caner,2021; Bilgin and Erhan,2021   ).

My country took the initiative, at an early date, to suspend studies, since the outbreak of the epidemic, and it turned into schools Or to virtual classes in one form or another, so electronic communication was an appropriate solution after the installation of the e-learning deanships, the most prominent of which are the activation of the educational electronic portals, the Ain enrichment portal, the gate of the future, and the enhancement of the role of e-learning in our universities through its application in universities after the inauguration of the e-learning deanships. Among them(Ammary,2020) :

 - *Imam Abdul Rahman bin Faisal University:* The Deanship of E-Learning and Distance Learning was established at the university in 2010, to cover a basic area in the university's work as a professional research institution that keeps pace with the continuous development of education, and works with a conceptual application of teaching and learning processes using technology.

 -*Imam Muhammad bin Saud Islamic University:* This Univ. offers a number of specializations, and it works to increase specializations year after year.

- *King Abdulaziz University:* It has achieved leadership in distance education programs, in terms of the number of specializations available to students (for the undergraduate level), in the distance education system.

- *Saudi Electronic University:* a leading electronic university that represents one of the types of higher education, and provides an environment based on information and communication technologies, e-learning and blended education, and it grants degrees in programs and specializations compatible with the needs of the labor market, and meets the requirements of development and learning and given the importance of digital education to bypass Corona crisis; Saudi Arabia is spreading the exploitation of the privileges granted to this education by circulating it in (43 universities) in a step to install this basic education in the post-Corona stage. As recommended by the UNESCO ,educational institutes were equipped with online learning tools (Crawfordet al., 2020).

2.Literature Review
2.1.Online stakeholder groups and Quality of distance education

The stakeholders of distance education are those that are affected by it(Wagner, Hassanein, & Head, 2008).To ensure the greatest possible benefit from distance education, teachers and students alike

should have adequate training in this type of education (Mosakhani & Jamporazmey, 2010; Puri, 2012). And the desired benefit of training is the ability to interact between all parties to the educational process (Bacsich, Bastiaens & Bristow, 2009; Siemieniecka, Wioletta , Kamila and Małgorzata ,2017), as the main factors for implementing and developing distance education (Masrom, Zainon, Rahiman, 2008). Hence, in the event that teachers are competent in this type of education, they will thus increase students' motivation to use different types of modern technologies (such as WhatsApp, Zoom, e-mail, and others) that will help them receive the educational course (Hodges et al. 2020; Mallik, and Lakshmi ,2017; Selim, 2005).

2.2.Instructional Design and Quality of distance education

In Instructional design (Çirakoğlu, Asuman and Ruken,2021),strategies were chose in order to create products, such as those concerned with lesson plans or instructional materials, as well as the implementation and management of the overall design process(Bates,2020). Learning objectives should be clear , structured content should be chosen carefully, workloads for faculty and students should be controlled, media should be integrated,   student activities should be relevant, and assessment strongly should be tied to desired learning outcomes(Bates,2019). Online instruction should be designed with students' motivation to learn, their competence, and their ability to comprehend. (Ricart et al., 2020).Additionally, appropriate course design of e-learning supports teamwork, and learners find a fun environment during their learning (Liao et al., 2019).

2.3.Student satisfaction and Quality of distance education

SS is regarded as a significant and crucial factor for all educational institutions, including and of course, at the heart of it is higher education institutions (Shehzadi et al.,2020; Uysal, and Kerim , 2019) . Fatani(2020) found that students at King Abdulaziz University reported that Video conferencing encouraged students to participate. In the same direction, Sharma et al.(2020) found that students were satisfied with the online learning. Shehzadi et al.(2020)'s results revealed that e-learning leads to create positive e-word of mouth and students' satisfaction.

3.Significance

  This study could contribute to the literature on QDE. The study is concerned the role of online stakeholder groups, Instructional Design and Student satisfaction in predicting QDE in KS University during the COVID-19 pandemic. This may provide guidelines for KS University, and other higher education universities in the kingdom to implement distance education effectively ,hoping to facilitate students learning.

4.Research Hypotheses

 The aim was to investigate the role of online stakeholder groups, Instructional Design and Student satisfaction in predicting QDE in King KS during the COVID-19 pandemic. In order to attain research objective, the hypotheses proposed as follows.

Hypothesis 1: There is a positive correlation between online stakeholder groups, Instructional Design and Student satisfaction and QDE.
Hypothesis 2: There are combined effects of online stakeholder groups, Instructional Design and Student satisfaction on QDE.
Hypothesis 3: online stakeholder groups, Instructional Design and Student satisfaction contribute to QDE.

5.Method

Quantitative research is carried out with the aim to assess predictors of Quality of distance education during the COVID-19 pandemic. It uses a survey-based methodology to obtain data from the respondents.

6.Design

A survey method was used. The independent variables are online stakeholder groups, Instructional Design and Student satisfaction, while the dependent variable is QDE.

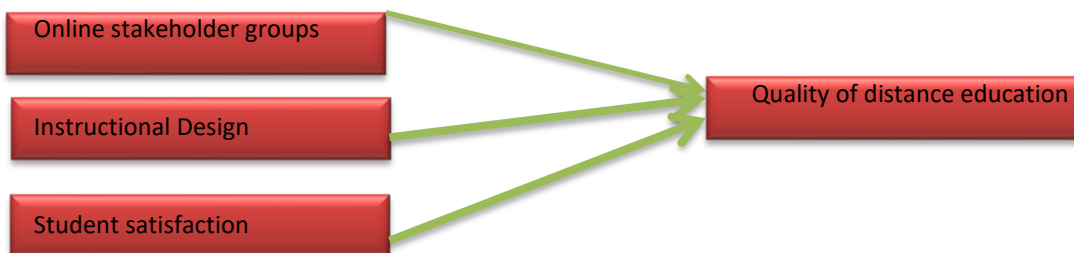The research model then as follows

Figure 1. Research Model

6.1.Sample and data collection

Students from KS University were targeted. They all are from college of education. They follow Administration Policies, Educational Administration, Educational Psychology, Arts, Educational Technology, Islamic Studies, Special Education and Early Childhood as undergraduate programs . All were from KSA. An online questionnaire was used to collect data via Facebook and WhatsApp groups. I received a total of 210 questionnaire responses . They were 160 males(76.19%), and 50 females(23.81%).

6.2.Instrument

A 20- item survey instrument was developed particularly for this research study .It used a 5 points Likert scale:

1 = Strongly disagree

2 = Disagree

3 = Neither agree nor disagree

4 = Agree

5 = Strongly agree

Examples of Online stakeholder groups are :" Online stakeholder groups offer adequate support and encouragement to participate online"," It is the Instructors who create their own online course content ".

Examples of Student satisfaction are:" I am satisfied with DE"," I am satisfied with Online stakeholder groups support".

Examples of Instructional Design are:" instructional system meets the objectives of our institution"," Instructional Design is accessible".

Examples of Quality of distance education are:" DE encourages instructors and learners to collaborate "," through methods of DE , students can record and listen to the lectures more than once".

The content validity of the scale was examined by a group of 4 experts. They assessed the relevance of each item using a four-point Likert scale. The 20 items were judged to be quite or highly relevant. A content validity index was calculated at the item level (I-CVI = 0.90). The instrument demonstrated convergent validity as all the construct values were higher than the recommended threshold of 0.60. The actual values ranged from 0.666 to 0.843. Therefore, the instrument demonstrated good levels of consistency, reliability and validity.

Reliability analysis using Cronbach's Alpha showed that all of the four variables used in this research were reliable as shown in Table 1.

Table 1. Reliability Analysis

Variable	Cronbach's Alpha Based on	Remarks
Online stakeholder groups	0.756	Reliable
Instructional Design	0.843	Reliable
Student satisfaction	0.856	Reliable
Quality of distance education	0.812	Reliable

7.Procedures

Students were asked to accept to participate to this study after being informed about its aims. They were also asked to be honest when filling in the survey and answer its questions. They were told that their answers and responses would be kept secret , and only for research purposes , so their responses have nothing to do with their academics. All data were entered in an SPSS file.

8.Data Analysis
Pearson correlation(R) and multiple regression (MRA) were used to analyze data .

9.Results
9.1.Descriptive data and inter-correlations
Table 2 shows the means, descriptive statistics and inter-correlations of online stakeholder groups, Instructional Design and Student satisfaction and Quality of distance education. Table 2 shows that there are significant correlations between online stakeholder groups, Instructional Design and Student satisfaction and QDE. QDE correlates positively with online stakeholder groups (r =.608), Instructional Design (r =.455) and Student satisfaction (r =.580).

Table 2 – Descriptive statistics and inter-correlations of online stakeholder groups, Instructional Design and Student satisfaction and Quality of distance education

Variables	1	2	3	4
online stakeholder groups	1.00	.542**	.608**	.608**
Instructional Design	.542**	1.00	.552**	.455**
Student satisfaction	.578**	.552**	1.00	.580**
Quality of distance education	.608**	.455**	.580**	1.00
Mean	18.018	19.972	21.681	20.709
Standard deviation	1.199	1.134	1.214	1.025
** P <.01				

9.2. Predictors of Quality of distance education

Results presented in table3 show that online stakeholder groups, Instructional Design and Student satisfaction yielded a coefficient of multiple regression (R) of 0. 450 and a multiple correlation square of   0. 435. This shows that 43.5% of the total variance in QDE of students is accounted for by the combination of online stakeholder groups, Instructional Design and Student satisfaction. F-ratio value was significant $(F(3, 206) = 28.962; P < 0.01)$.

Table 3. The regression results of the predictors and QDE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change statistics				
					R Square change	F Change	Df1	Df2	Sig. F change
1	.671a	.450	.435	3.02644	. 450	28.962	3	206	.000

a. Predictors: (Constant), online stakeholder groups, Instructional Design and Student satisfaction
b. Dependent Variable: QDE

Table 4 Summary of Multiple Regression Analysis between the predictors and QDE.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	795.803	3	265.962	28.962	.000a
Residual	970.888	206	331.277		
Total	1766.691	209			

a. Predictors: (Constant), online stakeholder groups, Instructional Design and Student satisfaction
b. Dependent Variable: QDE

As for results displayed in table 5, online stakeholder groups, Instructional Design and Student satisfaction contributed to the prediction of QDE and beta weights were as follows: online

stakeholder groups (b = 0.370, t = 4.128; P < 0.01), Student satisfaction(b = 0.379, t = 4.243; P < 0.01) and Instructional Design (b = 0.372, t = 4.074, P < 0.01) .

Table 5. Relative Contribution of the Independent Variables to the Prediction of QDE. Coefficients a

Model	Unstandarized coefficients		Standarized coefficients	t	sig
	B	Std error	Beta		
1 (constant)	8.839	2.897		3.051	.003
online stakeholder groups	0.370	0.090	0.386	4.128	.000
Student satisfaction	0.379	0.091	0.394	4.243	.000
Instructional Design	0.363	0.090	0.372	4.074	.000

a. Predictors: (Constant), online stakeholder groups, Instructional Design and Student satisfaction
b. Dependent Variable: QDE

10.Discussion

  The purpose was to investigate the role of online stakeholder groups, Instructional Design and Student satisfaction in predicting QDE in KS University during the COVID-19 pandemic. As indicated in Table 2 , there were significant correlations between online stakeholder groups, Instructional Design and Student satisfaction and QDE. QDE correlates positively with online stakeholder groups (r =.608), Instructional Design (r =.455) and Student satisfaction (r =.580). Instructors , as one element of online stakeholder groups had to make distance education tools acceptable by their students.(Lee,Cheung&Chen,2005).In order for students adopt DE applications, they should feel their they are useful and enjoyable for them. This is the role of instructors to increase perceived usefulness and enjoyment (Nicole, Khaled & Milena ,2006).

The current study provided evidence that quality of distance education is a vital element for students success in an emergency situation like COVID-19. These results of this research study are in line with previous studies which proved that distance education has a positive effect on student satisfaction (Nortviget al., 2018; Tahoon, 2021;Vate-U-Lan, 2020). It was found there was a positive correlation between instructional design and quality of distance education . Instructors were required to focus on how to create and facilitate interactive communication methods, as establishing an interactive communication or to say it, building a robust online learning community is likely to be one of the major keys in determining the success of an online instruction, and it is therefore a perquisite of a good instructional design. This is consistent with findings of previous studies(e.g. Alonso et al.,2005; Li-Ling,2016).
In line with other studies (e.g. Khodadad Hoseinyet al., 2013; Supriadi and Sa'ud, 2017;Terry, 2016 ;Zeglatet al., 2016), findings highlighted the importance of online stakeholder groups, Instructional Design and Student satisfaction in predicting Quality of distance education in KS University during the COVID-19 pandemic. Worth mentioning, when students' level of satisfaction increases, there will be positive outcomes for their universities.
 Finally, online stakeholder groups, Instructional Design and Student satisfaction should play a role in developing a better QDE. These mechanisms increase QDE during emergency conditions such as the Corona pandemic, and therefore, do allow the universities to operate in a normal way.

11. Conclusion

To conclude, online stakeholder groups, Instructional Design and Student satisfaction are likely to be vital mechanisms that cause to increase QDE during emergency conditions such as the Corona pandemic. These factors need to be considered when constructing e- learning for college students.

The current study has significant implications for literature. Theoretically, it is one of the first studies which provided information about three interplay mechanisms that play a vital role in determining QDE during emergency conditions such as the Corona pandemic, namely: online stakeholder groups, Instructional Design and Student satisfaction. Thus it helps increase our understanding of different factors that are likely to play a role in QDE during emergency conditions such as the Corona pandemic. Practically, this research study is helpful because the current situation has been imposed on the universities of the world, including the universities of my country to shift to distance education.

12. Limitations and future research

This research study is without no limitations. First, participants was recruited from only one university , KS University. Therefore, the findings cannot be generalized to other universities. Second, survey was used to collect data. Future researchers should use different methods such as personal interview or telephone interview to collect data.

13. Disclosure

I report no conflict of interest.

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