

Impact of distance education to reduce the effects of the (COVID 19) on the educational attainment level of students of King Faisal University

Khaled A. Z. Alyamani¹

Community College in Abqaiq, King Faisal University, P.O. Box 4000, Al-Ahsa 31982, Saudi Arabia.

kalyamani@kfu.edu.sa

Mohammed A. Aleid²

Curricula and Teaching Methods Department, College of Education, King Faisal University, P.O. Box 4000, Al-Ahsa 31982, Saudi Arabia

Abstract

The study aims to know the level of educational attainment for King Faisal University students in light of the rapid shift from traditional education to distance education due to the spread of Virus Corona (COVID 19). The novelty, of the proposed study is to confirmed students' level in distance education during the Covid-19. The study also attempts to measure the extent of the parents' and teachers' ability to monitor the progress of the students through distance education. In order to warrant stability of the questionnaire, 275 students participated to answer the questions, they were divided into 56% male students and 44% female students. The researcher used the Alpha Cronbach lab to find a coefficient of the internal consistency was (82.3), which is a high level of stability and acceptable for the purpose of conducting the research. Based on the data analysis, the study confirmed that the educational attainment through distance education for university students was 92%, and the follow-up rate was 72% high. The study used a package of analytical methods of the SPSS program to find out the results.

Keywords

Distance education, academic achievement, COVID 19

To cite this article: Alyamani K, A, Z, and Aleid M, A. (2021). Impact of distance education to reduce the effects of the (COVID 19) on the educational attainment level of students of King Faisal University. Review of International Geographical Education (RIGEO), 11(5), 3689-3702. Doi: 10.48047/rigeo.11.05.255

Submitted: 09-10-2020 • **Revised:** 10-09-2021 • **Accepted:** 12-09-2021

Introduction

Corona epidemic has appeared since march the beginning of 2020 in many countries across the world, the first of which is China, epidemic center, China (Aborode et al., 2020; Abou-Khalil et al., 2020; Dalal, Archambault, & Shelton, 2017; Svoboda, 2020). All countries have endeavored to protect their citizens in every way from the exposure to this virus (Costa, Costa, & Martínez, 2020; Golberstein, Wen, & Miller, 2020), especially in the beginning when the ways to deal with this virus were not clear, so countries were forced to prevent mixing and closing stores (Frederick et al., 2020). At present, in most countries (Bouso et al., 2020; Daniel & Kamioka, 2017), all educational and commercial activities are committed to quarantine (Asbury et al., 2021). Students in schools and universities are among the most affected sectors (Lee, 2020), but distance education has had an exceptional role in many countries especially in light of the accelerating development of technology (Lee, 2020; Silvee, 2020). Education has been affected by the rapid developments in the internet systems because it occupies large areas of interest to companies and educational institutions in the world (Garbe et al., 2020), especially university institutions (Golberstein et al., 2020; Kennedy, Schmitz, & DeLong, 2020). Distance education began through some European and American universities in the late 1970 (Lambert & Schuck, 2021) that were sending various educational materials by mails to the students, and these included books, tapes and videotapes (Siemens & Tittenberger, 2009; Yun, 2020). The students were submitting their homework in the same way. These universities required the student to attend the university headquarters on his own to take the final exam under which the student was awarded a certificate (Toseeb et al., 2020). Then it developed in the late 1980s to be via cable and TV channels, and the British BBC News was a pioneer in this area. In the early 1990s (Tulbure, 2011), the Internet emerged strongly as a fast and easy alternative to communication to replace e-mail with ivory mail in the transport of light materials (Tomaino et al., 2021). In the late 1990s and the beginning of the century, Viner et al. (2020) appeared sites that provide an integrated service for education via the web, a service that included content for self-education in addition to the possibilities of communicating and sharing with classmates through the same site or an email (Khalaf, Abdulsahib, & Sadik, 2018). This is what was recently defined as the use of communication techniques in the educational process, and distance education has spread to many institutions and universities and was introduced to different disciplines. Furthermore, distance education is characterized by the physical separation between students and teachers during the learning process (Kim & Asbury, 2020). It is for individuals who work part-time and for those in military (Jowsey et al., 2020), people who are residing in remote areas can benefit from distance education. Thus, students can work at any time that suits them and universities can benefit of such educational system since they are not supposed to build classrooms and residencies (Iivari, Sharma, & Ventä-Olkkonen, 2020). Distance education is divided into two main types: simultaneous delivery and delivery asynchronous. In simultaneous delivery (Kapasia et al., 2020), the communication between students and lecturers is in real time. On the other hand, in delivery asynchronous the lecturer provides the students with study materials via computer, video, or any means through which the student can collect lectures at any later time (Owusu-Fordjour, Koomson, & Hanson, 2020). Today more than 61 countries in Europe, Asia, the Middle East and America have closed universities and schools (Hodges et al., 2020), leaving nearly 421 million children and young adults without education (Domenech et al., 2016). This is due to the fear of contracting the virus (Patel, 2020). Distance education can be viewed as a supporting system to the traditional education by expanding the internet use in bridging the temporal and spatial gaps between the teachers and the learners (Toseeb et al., 2020). It is true that the distance education system cannot be an alternative to the traditional education in any way (Caliskan, Suzek, & Ozcan, 2017), but the current situation, where the world is going under such exceptional circumstances. The distance education provides numerous advantages this is what many studies talk about, including: Ferraro et al. (2020) this is Among the recent studies focusing on the impact of school disruption due to the Coronavirus pandemic, and the study sample was teenage students in Italy. The study tried to identify the students' perception of the sudden shift from traditional education to distance education and the difference between them. The study also clarified the role of students' openness to technology and social media, which facilitated the process of communication with their colleagues and teachers. Besides reducing parental restrictions on the use of the Internet and means of communication, this may be what helped students to adapt to distance education. Toseeb et al. (2020) Among the recent studies on a sample of parents of children with special educational needs and disabilities in the United Kingdom, which talked about the impact of the Corona virus on their mental health and the

health of their children, and through inductive analysis of the data, the results showed an increase in anxiety for some parents and the relative low stability of others from parents and discussed Studying future solutions to these problems.(Garbe et al., 2020). Among the recent studies that focused on the experiences of parents and their suffering with the closure of schools and the transformation of distance education in their cooperation with their children for the success of remote study, in addition to other responsibilities for them, the study sought to know the most important problems they faced during the period of studying their children with the situation of the Corona virus. Rizun and Strzelecki (2020) The study tends to know the impact of the shift from traditional education to distance education due to COVED-19 and what are the problems that students face as a result of the shift from traditional education to distance education. The study used a general technology acceptance model for education among students in Poland. There has been acceptance by students to use distance education as an alternative to traditional education. This study is considered complementary to previous studies that did not talk about the effect of distance study on the level of educational attainment of King Faisal University students. Kaden (2020) The study focused on the role and influence on the teacher due to COVED-19, as it led to a sudden shift from traditional education and direct teacher-student interactions to a forced shift to online education. The study sees the possibility of the emergence of a new model for student education that blends the two systems in addition to considering distance education a good solution during financial crises in financing education. In fact, distance education will continue to be used until a vaccine for this virus is found in order not to risk people's lives (Armitage & Nellums, 2020). French law defines the distance education system as every education that does not require physical presence of the teacher or students in a specific location for education (Kim & Asbury, 2020). The educational distance requires only some basics like the internet line (Tomaino et al., 2021), either antenna or cable (Rice & Dykman, 2018), in addition to that a computer, phone, or one of the various smart devices. Saudi Arabia was one of the most important examples of countries that have succeeded in completing their children's education through educational platforms using distance education. This study Impact of distance education to reduce the effects of the (COVID 19) on the educational attainment level of students of King Faisal University aims to know the extent of success and the level of acceptance of this experiment in light of the Corona Covid-19 pandemic, as the study sought to know its strengths and weaknesses. It also tries to measure the level of educational attainment of students of King Faisal University in Al-Ahsa and the extent

Research problem

- Is there a role for distance education in increasing the academic achievement for King Faisal University students in Al-Ahsa Governorate?
- Has distance learning increased the opportunities for students to be monitored by their teachers and parents?

Objectives

Through the effective role of the distance educational process, especially in light of the conditions that the world faces today, this study aims to clarify several points, the most important of which are

- To know the role of distance education as an alternative to traditional education for protecting our students, and community members from exposure to the Coronavirus
- Introducing the level of academic achievement of students at King Faisal University in Al-Ahsa Governorate.
- To know the role of distance education in continuing studies and completing the semester normally.
- To know the level of follow-up and control of parents on the extent of the student's commitment and to study and the levels of their achievements.
- To find out the extent to which teachers follow up their students

Research significance

The importance of the study is to answer the questions of the problem that raised during clarifying

the role provided by the Saudi universities as an example to follow, especially King Faisal University in Al-Ahsa, which provided the appropriate environment to complete education via distance education. Due to the current exceptional circumstances, about 421 million children and young people stopped their education in more (Rizun & Strzelecki, 2020) than 61 countries in the Middle East, Europe, Asia and America (Jowsey et al., 2020). Such situation highlighted the importance of distance education which manifested in playing a role in continuing the educational process without interruption. These countries imposed full curfew and compelled everyone to home quarantine. The study also aimed to clarify the role of parents and teachers in following up students through distance education systems

Research Hypotheses

H₁. There is a role for distance education in increasing the academic achievement of students of King Faisal University students in Al-Ahsa Governorate.

H₂. There is no role for parents in following up their students through distance education.

H₃. There is no statistically significant effect between follow-up and academic achievement.

H₄. There are differences in the responses of the sample members due to the gender variable.

H₅. There is a statistically significant effect between distance education and increased academic achievement for students of King Faisal University students in Al-Ahsa Governorate.

Overview of dataset and variables

This section defines the type of research and methods for collecting and analysing data

Design of Questionnaire Tool

The questionnaire was designed to suit the research needs and to obtain answers about the research problem as well as the hypotheses. The questionnaire was divided into three parts as follows:

- General data of the respondents represented by type, age, college, educational level, and the types of devices used
- It includes 41 questions, which are the most important to obtain the targeted information. The answers were measured with the words "strongly agree" "agree" "neutral" "disagree" and "strongly disagree"
- The third part expressed the extent of the respondent's satisfaction with two types of questions through five options, "very positive" "positive" "neutral" "negative" and "very negative"

Scope & limitation

The study focused on explaining the influence of COVID19 on King Faisal university students.

Research Methodology

Methods of Data Collection

The study was conducted on the basis of a large number of information sources including a mix of primary and secondary sources. Primary Data: descriptive approach was used in this research. Thus, primary sources comprised of data collected through: The questionnaire has gone through more than one stage, the experimental stage, which was distributed to a simple group of students and faculty members to know the feedback from it. Based on the feedback, the questionnaire was modified until it reached the final form which was distributed to 275 students. Secondary Data: The study relied on secondary sources such as books, magazines, websites and studies related to this topic

Research limitations

The researcher faced many restrictions that affected the expansion of the research process and the research results, the most important of which is the ban caused by the Corona pandemic and the lack of great interaction in responding to the questionnaire by the students.

Statistical methods used

To analyze the data collected and verify the research hypotheses, some statistical methods have been used through the statistical program (spss) as follows:

- Frequencies and percentages to describe the characteristics and responses of the sample.
- Arithmetic mean, standard deviation, and percentages to describe and analyze the questionnaire answers.
- one - sample T Test
- Overall link test (ANOVA)
- Unary regression test
- Homogeneity groups test Levene Statistic
- One-way ANOVA test to find the differences in the answers of the sample members (educational level, age, college)?
- (Independent –samples T Test) to know the differences in the answers of the members of the sample linked to social characteristics?

Characteristics of the research sample

To analyze the personal and functional characteristics of the individuals in the research sample, the questionnaire contained a number of variables shown in the table below:

Results

Research Hypotheses Test

First hypothesis test

This section verifies the validity of the hypothesis which states: "There is a role for distance education in increasing the academic achievement of students of King Faisal University students in Al-Ahsa Governorate". Given that the scale used is quadratic, the theoretical value of T is (3) Due to the assumption of values for each level of the scale (5 + 4 + 3 + 2 + 1) and taking the mean of it . To test this hypothesis, the correlation test + T test was used

It is clear from the results presented in Table. 2: The value of T (147.8) has a significance level (.000) which is lower than the significance level ($0.05 \geq \alpha$). Arithmetic mean (3.94) which is greater than the assumed mean (3).

Thus, it is clear that there is a role for distance education in academic achievement and the percentage of the role is 78.8%.

To find out the degree of correlation between the two variables, a correlation test was performed and the results were as follows:

Table 1:

Shows the frequency and percentages distribution of the research sample according to the variable, gender, age, marital status, education and college

Gender		
Variable type	number	percentage
Male	154	56.0
Female	121	44.0
Total	275	100.0
Age		
Less than 20	43	15.6
21-30	197	71.6
31-40	30	10.9
41-50	5	1.8
Total	275	100
Status		
married	22	8
Single	253	92
Total	275	100
Education		
postgraduate	11	4
bachelor	132	48
Higher diploma	132	48
Total	275	100
Faculty		
community	176	64
education	66	24
College of literature	22	8
Others	11	4
Total	275	100

Table 2:

The (T) test demonstrates the role of distance learning over academic achievement

variable	T	df	Sig.(2-tailed)	Mean Difference
Distance education and academic achievement	147.823	274	147.823	3.93647

Table 3:

The correlation test demonstrating the degree of correlation between distance education and academic achievement

Variables		academic achievement	Distance education
academic achievement	Pearson Correlation	1	.926(**)
	Sig. (2-tailed)		.000
	N	275	275
Distance education	Pearson Correlation	.926(**)	1
	Sig. (2-tailed)	.000	
	N	275	275

Table. 3: The table shows the level of stability of the questionnaire axes, as it demonstrated a high degree of consistency and consistency, especially in the two axes of educational attainment and the level of follow-up for students.

- Morale (.000) is lower than the significance level ($0.05 \geq \alpha$).
- The degree of correlation at the correct one and the degree of correlation (0.92.6) which is a very high degree of correlation because it is close to the correct number 1.
- Highlighting the differences in the answers about the role of distance education in the academic achievement.
- Knowing the differences related to the variable (educational level)

Table 4:

Shows the results of the differences in the answers of the test about the effect of distance education on academic achievement

Variable	F	Sig	Levene Statistic	Sig.
academic achievement	19.306	.000	8.878	.000

At the educational level

- For the groups homogeneity test (Levene Statistic), the level of significance is (0.000), which is less than the theoretical level of significance (0.05). Thus the difference is not achieved between groups.
- The value of F is (19.3) with a significant level (0.000) which is less than the theoretical level of significance (0.05). Therefore, there are differences in the responses of the sample individuals according to the variable of the educational level.

Dimensional tests showed that the differences are in favor of (Bachelor - higher diploma).

It is evident that they differed in their answers about the variable. As for the rest of the groups, there are no differences in their answers.

Hence, the hypothesis that "there is a role for distance education in increasing the academic achievement of students of King Faisal University students in Al-Ahsa Governorate " is accepted.

The second hypothesis test

To verify the validity of this hypothesis, which states that "there is no role for parents in following up their students through distance education, a single sample (T) test was used, and the results were as follows:

Table 5:

Shows the results of the (T) test to know the parents' role in following up their students

Mean	Sig	df	t
3.8300	.000	274	69.438

Table. 5 that: The value of T (69.4) at the significance level (.000) is lower than the significance level ($0.05 \geq \alpha$).

- Arithmetic mean (3.83) is greater than the assumed mean (3).

Thus, it is clear that there is a role for parents in following up their students through distance education and the percentage is (76.6%).

We conclude from the second hypothesis test that:

- There is a role for parents in following up their students through distance education.
- The percentage of parents following their students is 76.6%.

Consequently, we reject the null hypothesis stating that "there is no role for parents in following their students through distance education" and accept an alternative hypothesis which states "There is a role for parents in following up their students through distance education".

The third hypothesis test

To verify the validity of this hypothesis, which states that "there is no statistically significant effect between follow-up and academic achievement", the researcher used the single regression test to find out the effect of the follow-up on the academic achievement. The results were as follows: Table 6 shows the results of the single regression test for the effect of follow-up on academic achievement

Regression coefficient		values		Correlation coefficient		
sig	β	T	values	sig	R ²	R
		F				
.000	.563	16.1	285.3	.000	.486	.697

Table 6: 1. The value of "F" (285.3) reached the level of significance (0.000) which is less than the level of Moral connotation, meaning that the model is valid for testing.

2. The calculated value of the multiple correlation coefficient "R" reached (0.697) at the level of significance (0.000) which is less than the level of significance, i.e. it is statistically significant indicating a correlation between follow-up as an independent variable and academic achievement as a dependent variable.

3. The value of the determination coefficient (R²) was (0.486), this indicates that the independent variable explains what (48.6%) of the change in academic achievement is.

4. There is a positive effect relationship with statistical significance between follow-up as an independent variable and academic achievement, as evidenced by the calculated value of (T) of (16.1) which is greater than its tabular value at the level of significance ($\alpha \leq 0.05$).

We conclude from the third hypothesis test that:

- There is a direct relationship between follow-up and academic achievement.

Consequently, we reject the null hypothesis that states "there is no statistically significant effect between the follow-up and the academic achievement" and accept the alternative hypothesis, which states, "There are statistically significant effect between the follow-up and the academic achievement".

The fourth hypothesis test

To verify the validity of the hypothesis, which states that "there are differences in the responses of the sample members due to the gender variable, an independent-samples test (T) was used.

Table 7:

Shows the results of the differences test in the responses of the respondents about the Gender variable

Variables	T	Df	Sig
follow-up	.045	273	2.013
academic achievement	.000	273	5.663
Distance education	.000	273	4.489

Table 7: shows the results of the differences test in the responses of the respondents about the gender variable .At the follow-up level. The value of T (2.01) with a significant level was (0.045), which is less than the level of significance ($\alpha \leq 0.05$). Consequently, there are differences in the responses of the sample with regard to the follow-up of the parents due to gender.

- At the level of achievement, the value of T (5.7) and its level of significance was (0.000) which is less than the level of significance ($\alpha \leq 0.05$) (Caliskan et al., 2017). Thus, there are differences in the responses of the samples individuals with respect to the academic achievement attributable to gender differences.

- At the distance education level, the value of T (4.5) with a significant level was (0.000) which is less than the level of significance ($\alpha \leq 0.05$). Thus, there are differences in the responses of the sample members to distance education due to gender differences.

We conclude from the fourth hypothesis test that:

- The opinions of the sample members differ on follow-up, academic achievement, and distance education, which indicates the acceptance of the hypothesis stating that "There are differences in the responses of the sample members due to the gender variable".

The fifth hypothesis test

This section attempts to verify the validity of the hypothesis, which states "There is a statistically significant effect between distance education and increased academic achievement for students of King Faisal University students in Al-Ahsa Governorate"

Table 8:

Shows the results of the single regression test. The effect of distance education on the academic achievement

Regression coefficient sig	Values β	Values T	Correlation coefficient sig	Correlation coefficient R^2	Correlation coefficient R
.000	1.547	40.401	.000	.857	.926

Through Table 8, it is clear that:

1. The value of the multiple correlation coefficient "R" calculated (0.926) with a level of significance (0.000) which is less than the level of significance, i.e. it is statistically significant. This indicates the existence of a correlation between distance education and an increase in the academic achievement
2. The value of the determining factor "R2" (0.857) indicates that distance education explains 85.7% of the changes that occur in the academic achievement.
3. There is a positive and statistically significant effect of relationship between distance education and academic achievement.

Discussion

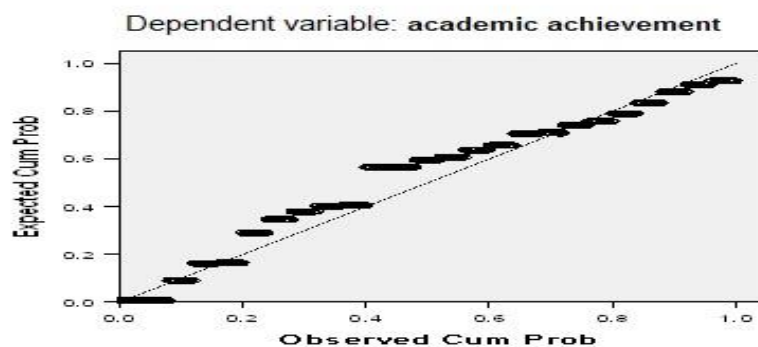
As the title suggests, the focus of the study is on exploring the role of distance education in reducing the effects of (COVID-19) on the educational achievement level of King Faisal University's students in Al-Ahsa Governorate. As the great spread of the virus coincided all over the world with the continuation of the second semester of university students, which led to taking important measures to protect citizens from infection in the Kingdom of Saudi Arabia. The study was suspended only for short time, and then the university quickly took important decisions regarding education, as distance education was considered as an alternative for traditional education. And despite the problems that faced the process of changing to distance education, everyone cooperated in solving them including teachers, students and families as well. The research focused on measuring the level of the educational achievement and the level of parents' and teachers' follow-up to the students. It was clear through the answers test that there was no effect of the pandemic (COVID-19) on the level of educational achievement for students at the university, as the level of educational attainment reached 92%, while the level of follow-up of the parents and teachers reached 76%. This confirms the success of the educational process without a significant impact on the level of the educational achievement and the level of the follow-up for the students of King Faisal University, Al-Ahsa Governorate. A total of 275 students from different colleges participated in answering the research questions, most of whom were 64% from community colleges, 24% from the College of Education, and 12% from the rest of other colleges. The answers varied according to gender of the respondents where 56% are male students and 44% female students. Likewise, the majority of respondents were undergraduate and diploma students, making 48% each and 4% for postgraduate students. The following figures show the level of achievement through the T - test as well as the regression test. This paper presents the relationship between distance education and the level of educational achievement as well as the level of follow-up by parents and teachers for students. This analysis is also compared to specific social variables such as age, marital status and educational level. The histogram indicates that the data are subject to normal distribution. The drawing shows the direct relationship between the follow-up and the academic achievement.

The regression equation is:

$$Y = 2.099 + 0.563 (X) + e \text{ (Karal \& \u015flbir, 2010)}$$

Meaning: An increase in follow-up to 2.099 will lead to an increase in academic achievement by 0.563 significant effects between follow-up and academic achievement".

Normal P-P Plot of Regression Standardized Residual



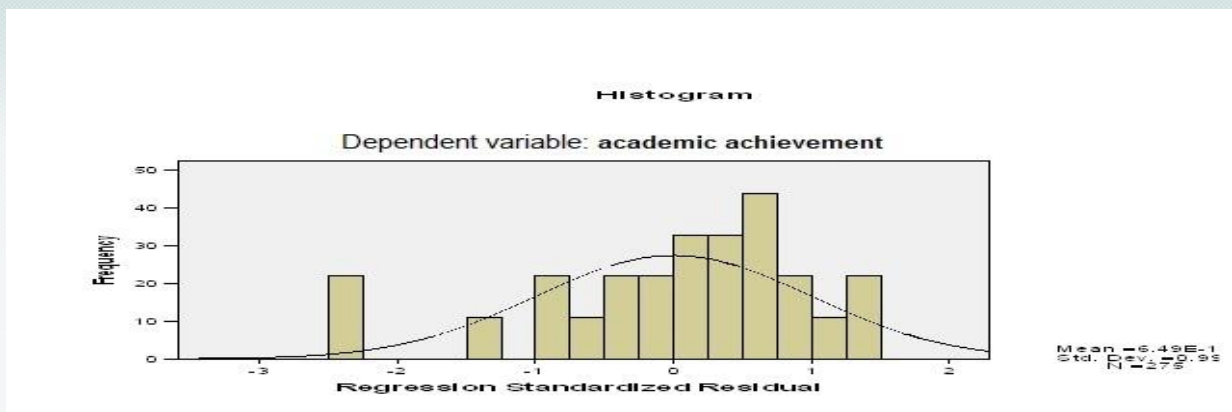


Figure 1. plot of

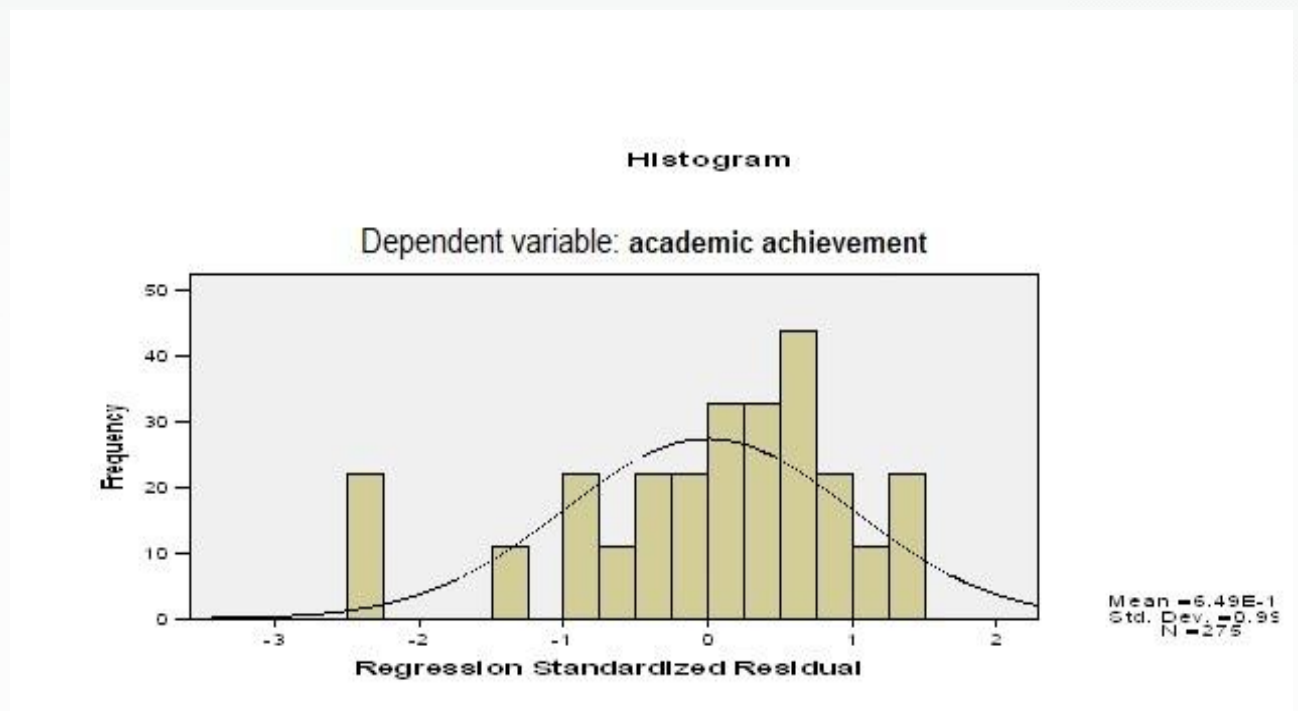


Figure 2. Histogram dependent variable: academic achievement

Normal P-P Plot of Regression Standardized Residual

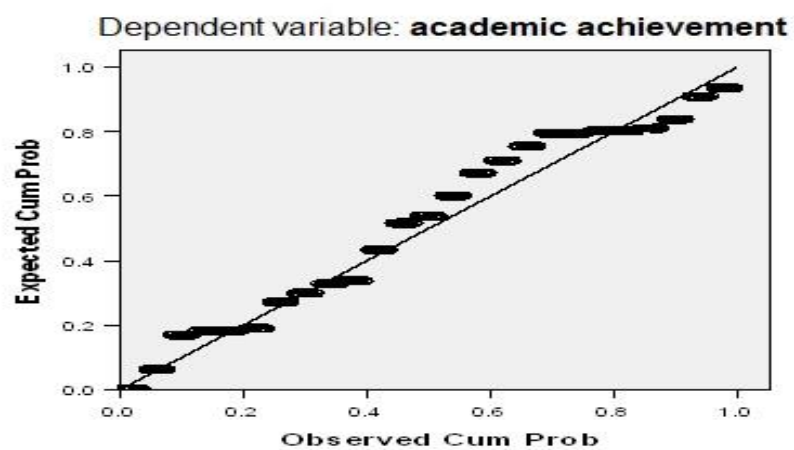


Figure 3. P-p regression plot

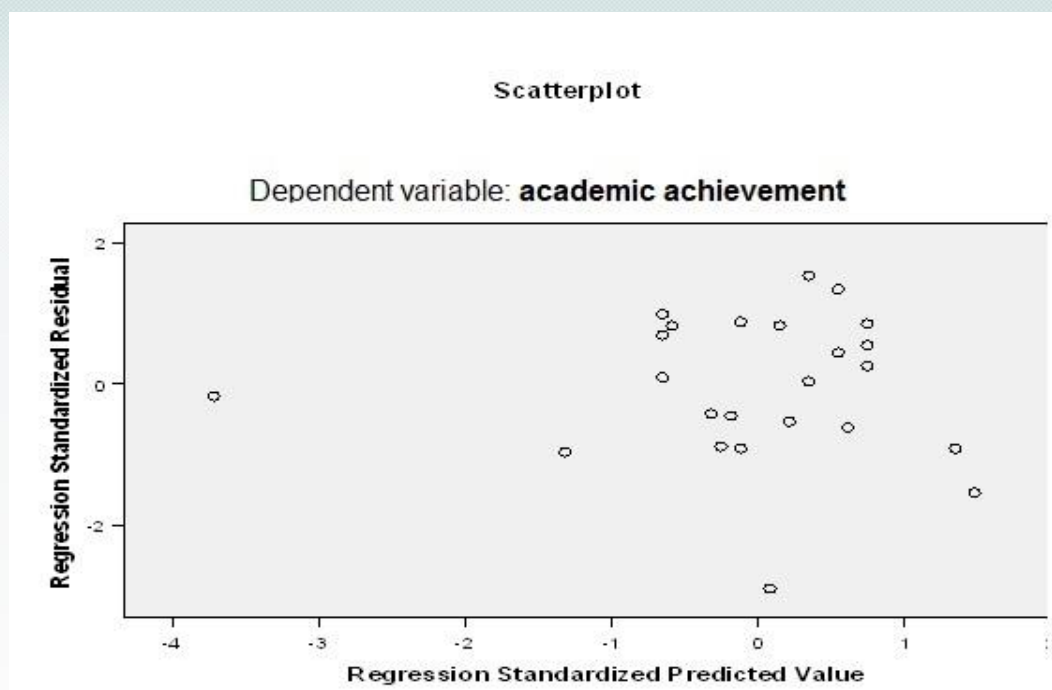


Figure 4 displays the distribution is moderate and data is collected around the straight line.

Therefore, the remaining ones follow the normal distribution, which is one of the conditions for correctness of the regression analysis test. A link was found between distance education and academic achievement, i.e., distance education affects positively the academic achievement. "there is a statistically significant effect between distance education and increasing academic achievement for students of King Faisal University students in Al-Ahsa Governorate".

Conclusion

The study aims to know the level of educational attainment of students of King Faisal University in Al-Ahsa Governorate after the shift to distance education compared with the level of normal educational during the traditional period of education. The study seeks to benefit in the future from the distance study experience, develop strengths and address weaknesses through the work of future programs based on distance study, where all members of the educational community have the basics to deal with distance educational programs also the role of this shift in protecting students from infection (Covid-19). To follow up on their students and know their progress. The evaluation package was used the tests in all its forms, as well as the tasks and duties and the level of open discussion that helps to measure the student's level of understanding in addition to research tasks and other tasks that assess discipline according to the type of specialization. The SPSS statistical program was used to analyze data, test hypotheses, and determine the relationship between the level of achievement and social variables such as gender, as well as college, age and marital status. Despite different responses on level of follow-up and educational attainment, the study showed that there was no effect on the Covid-19 pandemic regarding educational achievement and levels of follow-up. The results show that educational achievement was 92% and the level of follow-up of students by parents and teachers was 72%. The study faced several problems, the most important of which was the inability to reach a large segment of parents. Also, some parents consider distance education to be of not good, and it is natural that opinions differ, the actual results of evaluation it reliable to show the truth.

Acknowledgement

(The authors extend their appreciation to the Deanship of Scientific Research at King Faisal University for funding this research work through the project number No.206091)

References

- Aborode, A., Anifowoshe, O., Ayodele, T. I., Iretiayo, A. R., & David, O. O. (2020). Impact of COVID-19 on education in sub-Saharan Africa. Preprint, 1, 1-26. doi: <https://doi.org/10.20944/preprints202007.0027.v1>
- Abou-Khalil, V., Helou, S., Khalifé, E., Majumdar, R., & Ogata, H. (2020). Emergency remote teaching in low-resource contexts: How did teachers adapt? Paper presented at the 28th International Conference on Computers in Education Conference Proceedings doi:<http://hdl.handle.net/2433/259784>.
- Armitage, R., & Nellums, L. B. (2020). The COVID-19 response must be disability inclusive. *The Lancet Public Health*, 5(5), e257. doi: [https://doi.org/10.1016/S2468-2667\(20\)30076-1](https://doi.org/10.1016/S2468-2667(20)30076-1)
- Asbury, K., Fox, L., Deniz, E., Code, A., & Toseeb, U. (2021). How is COVID-19 Affecting the Mental Health of Children with Special Educational Needs and Disabilities and Their Families? *Journal of Autism and Developmental Disorders*, 51(5), 1772-1780. doi: [10.1007/s10803-020-04577-2](https://doi.org/10.1007/s10803-020-04577-2)
- Bouso, J. C., Fornís, I., Vilamala, M. V., LOENEN, B. D., Sainz-Cort, A., Jiménez-Garido, D. F., . . . Jenks, C. W. (2020). An analytical study of iboga alkaloids contained in Tabernanthe iboga-derived products offered by ibogaine treatment providers. *Archives of Clinical Psychiatry (São Paulo)*, 47(2), 51-54. doi: <https://doi.org/10.1590/0101-60830000000231>
- Caliskan, S., Suzek, S., & Ozcan, D. (2017). Determining student satisfaction in distance education courses. *Procedia Computer Science*, 120, 529-538. doi: <https://doi.org/10.1016/j.procs.2017.11.275>
- Costa, B. G., Costa, L. G., & Martínez, R. G. (2020). Does political uncertainty affect investment in the Ibex 35 ?. *Spanish Journal of Economics and Finance*, 43(122), 163-174. doi: <https://doi.org/10.32826/cude.v42i122.102>
- Dalal, M., Archambault, L., & Shelton, C. (2017). Professional Development for International Teachers: Examining TPACK and Technology Integration Decision Making. *Journal of Research on Technology in Education*, 49(3-4), 117-133. doi: [10.1080/15391523.2017.1314780](https://doi.org/10.1080/15391523.2017.1314780)
- Daniel, K. N., & Kamioka, E. (2017). Detection of learner's concentration in distance learning system with multiple biological information. *Journal of Computer and Communications*, 5(04), 1-15. doi: <https://doi.org/10.4236/jcc.2017.54001>
- Domenech, J., Vincent Vela, M. C., Peña Ortiz, R., Poza Plaza, E. d. I., & Blazquez, D. (2016, 21-23 June). Preface. Paper presented at the 2nd International Conference on Higher Education Advances, València, Spain doi:<http://dx.doi.org/10.1016/j.sbspro.2016.07.059>.
- Ferraro, F. V., Ambra, F. I., Aruta, L., & Iavarone, M. L. (2020). Distance Learning in the COVID-19 Era: Perceptions in Southern Italy. *Education Sciences*, 10(12), 1-10. doi: [10.3390/educsci10120355](https://doi.org/10.3390/educsci10120355)
- Frederick, J. K., Raabe, G. R., Rogers, V. R., & Pizzica, J. (2020). Advocacy, Collaboration, and Intervention: A Model of Distance Special Education Support Services Amid COVID-19. *Behavior Analysis in Practice*, 13(4), 748-756. doi: [10.1007/s40617-020-00476-1](https://doi.org/10.1007/s40617-020-00476-1)
- Garbe, A., Ogurlu, U., Logan, N., & Cook, P. (2020). COVID-19 and remote learning: Experiences of parents with children during the pandemic. *American Journal of Qualitative Research*, 4(3), 45-65. doi: <https://doi.org/10.29333/ajqr/8471>
- Golberstein, E., Wen, H., & Miller, B. F. (2020). Coronavirus disease 2019 (COVID-19) and mental health for children and adolescents. *JAMA pediatrics*, 174(9), 819-820. doi: [10.1001/jamapediatrics.2020.1456](https://doi.org/10.1001/jamapediatrics.2020.1456)
- Hodges, C. B., Moore, S., Lockee, B. B., Trust, T., & Bond, M. A. (2020). The difference between emergency remote teaching and online learning. *Educause*, 12. doi: <http://hdl.handle.net/10919/104648>
- Iivari, N., Sharma, S., & Ventä-Olkkonen, L. (2020). Digital transformation of everyday life – How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care? *International Journal of Information Management*, 55, 1-6. doi: <https://doi.org/10.1016/j.ijinfomgt.2020.102183>
- Jowsey, T., Foster, G., Cooper-Ioelu, P., & Jacobs, S. (2020). Blended learning via distance in pre-registration nursing education: A scoping review. *Nurse Education in Practice*, 44, 102775. doi: <https://doi.org/10.1016/j.nepr.2020.102775>

- Kaden, U. (2020). COVID-19 school closure-related changes to the professional life of a K–12 teacher. *Education Sciences*, 10(6), 1-13. doi: <https://doi.org/10.3390/educsci10060165>
- Kapasia, N., Paul, P., Roy, A., Saha, J., Zaveri, A., Mallick, R., . . . Chouhan, P. (2020). Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India. *Children and Youth Services Review*, 116, 105194. doi: <https://doi.org/10.1016/j.chilyouth.2020.105194>
- Karal, H., & Şilbir, L. (2010). The research about the usability of a visual dictionary developed for the hearing impaired students. *Procedia - Social and Behavioral Sciences*, 9, 1624-1628. doi: <https://doi.org/10.1016/j.sbspro.2010.12.376>
- Kennedy, P. L., Schmitz, A., & DeLong, K. L. (2020). Biotechnology and Demand Concerns: The Case of Genetically Modified US Sugar Beets. *AgBioForum*, 22(1), 49-60. doi: https://agbioforum.org/wp-content/uploads/2021/02/AgBioForum_22_1_5.pdf
- Khalaf, O. I., Abdulsahib, G. M., & Sadik, M. (2018). A modified algorithm for improving lifetime WSN. *Journal of Engineering and Applied Sciences*, 13(21), 9277-9282.
- Kim, L. E., & Asbury, K. (2020). 'Like a rug had been pulled from under you': The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown. *British Journal of Educational Psychology*, 90(4), 1062-1083. doi: <https://doi.org/10.1111/bjep.12381>
- Lambert, R., & Schuck, R. (2021). "The Wall Now Between Us": Teaching Math to Students with Disabilities During the COVID Spring of 2020. *The Asia-Pacific Education Researcher*, 30(3), 289-298. doi: [10.1007/s40299-021-00568-8](https://doi.org/10.1007/s40299-021-00568-8)
- Lee, J. (2020). Mental health effects of school closures during COVID-19. *The Lancet Child & Adolescent Health*, 4(6), 421. doi: [https://doi.org/10.1016/S2352-4642\(20\)30109-7](https://doi.org/10.1016/S2352-4642(20)30109-7)
- Owusu-Fordjour, C., Koomson, C., & Hanson, D. (2020). THE IMPACT OF COVID-19 ON LEARNING-THE PERSPECTIVE OF THE GHANAIAN STUDENT. *European Journal of Education Studies*, 7(3), 88-101. doi: [http://dx.doi.org/10.5281/zenodo.3753586](https://dx.doi.org/10.5281/zenodo.3753586)
- Patel, K. (2020). Mental health implications of COVID-19 on children with disabilities. *Asian journal of psychiatry*, 54, 1-2. doi: <https://doi.org/10.1016/j.ajp.2020.102273>
- Rice, M., & Dykman, B. (2018). The emerging research base for online learning and students with disabilities. In K. Kennedy & R. E. Ferdig (Eds.), *Handbook of research on K-12 online and blended learning* (2 ed., pp. 189-206). PA, USA: ETC Press: Pittsburgh.
- Rizun, M., & Strzelecki, A. (2020). Students' acceptance of the Covid-19 impact on shifting higher education to distance learning in Poland. *International Journal of Environmental Research and Public Health*, 17(18), 1-19. doi: <https://doi.org/10.3390/ijerph17186468>
- Siemens, G., & Tittenberger, P. (2009). *Handbook of emerging technologies for learning*: University of Manitoba Canada.
- Silvee, S. S. (2020). State v Sukur Ali: The Story of Miscarriage of Justice. *BiLD Law Journal*, 5(1), 93-116. doi: <http://bildbd.com/index.php/blj/article/view/31>
- Svoboda, O. (2020). War by Other Means: Geoeconomics and Statecraft _ By Robert D. Blackwill and Jennifer M. Harris. *Croatian International Relations Review*, 26(86), 183-186. doi: [10.37173/cirr.26.86.8](https://doi.org/10.37173/cirr.26.86.8)
- Tomaino, M. A. E., Greenberg, A. L., Kagawa-Purohit, S. A., Doering, S. A., & Miguel, E. S. (2021). An Assessment of the Feasibility and Effectiveness of Distance Learning for Students With Severe Developmental Disabilities and High Behavioral Needs. *Behavior Analysis in Practice*, 1-17. doi: [10.1007/s40617-020-00549-1](https://doi.org/10.1007/s40617-020-00549-1)
- Toseeb, U., Asbury, K., Code, A., Fox, L., & Deniz, E. (2020). Supporting Families with Children with Special Educational Needs and Disabilities During COVID-19. Preprint, 1-13. doi: <https://doi.org/10.31234/osf.io/tm69k>
- Tulbure, C. (2011). Do different learning styles require differentiated teaching strategies? *Procedia - Social and Behavioral Sciences*, 11, 155-159. doi: [10.1016/j.sbspro.2011.01.052](https://doi.org/10.1016/j.sbspro.2011.01.052)
- Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield, C., . . . Booy, R. (2020). School closure and management practices during coronavirus outbreaks including COVID-19: a rapid systematic review. *The Lancet Child & Adolescent Health*, 4(5), 397-404. doi: [https://doi.org/10.1016/S2352-4642\(20\)30095-X](https://doi.org/10.1016/S2352-4642(20)30095-X)
- Yun, C.-g. (2020). A subadult frontal of *Daspletosaurus torosus* (Theropoda: Tyrannosauridae) from the Late Cretaceous of Alberta, Canada with implications for Tyrannosaurid Ontogeny and Taxonomy. *PalArch's Journal of Vertebrate Palaeontology*, 17(2), 1-13. doi: <https://archives.palarch.nl/index.php/jvp/article/view/1>

Copyright of Review of International Geographical Education Online is the property of Review of International Geographical Education Online (RIGEO) and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.