Scientific Research Publishing

Open Journal of Modern Linguistics, 2023, 13, 16-25
https://www.scirp.org/journal/ojml
ISSN Online: 2164-2834
ISSN Print: 2164-2818

The Effect of Electronic Learning on the Students' Results during Covid-19

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How to cite this paper: Howaida, A. E. S., & Manahill, I. A. A. (2023). The Effect of Electronic Learning on the Students' Results during Covid-19. *Open Journal of Modern Linguistics, 13,* 16-25.
https://doi.org/10.4236/ojml.2023.131002

Received: December 10, 2022
Accepted: February 4, 2023
Published: February 7, 2023

Abstract

E-learning is one of the means that support the educational process and transforms it from the traditional stage to the stage of creativity, interaction, skills development and combines all electronic forms of learning. Electronic learning refers to the use of information and communications technology to enhance and support learning in tertiary education. So, this paper sheds a light on the effect of electronic learning on students' results during Covid-19 by comparing examinations results of traditional and electronic learning. The results show that eLearning is very significant and play important role in education.

Keywords

E-Learning, Covid-19, Technology, Black Board

1. Introduction

E-learning is part of the new dynamic that characterizes educational systems at the start of the 21st century. Like society, the concept of e-learning is subject to constant change. In addition, it is difficult to come up with a single definition of e-learning that would be accepted by the majority of the scientific community (Sangrà et al., 2012).

The concept of E-learning is very broad. It was coined in the late 90s as the technologically enhanced learning mechanism through Internet. Now it captures a broad range of electronic media like Internet, Intranets, Extranets, satellite broadcast, audio/video tape, interactive TV and CD-ROM to make the learning procedure more flexible and user-friendly. Because of the flexible nature of E-learning, it has got more demand among the people of world and the demand

is increasing day by day. As the demand is increasing, this is the time to standardize the whole e-learning system in a proper way and the time to increase the quality of existing standards. Though many standards are already there and have accepted by many academia, institutes, and organizations, still there are some gaps and work are going on to make them more practicable and more systematic (Kakoty et al., 2011).

In recent decades, the use of information and communication technologies (ICT) for educational purposes has increased, and the spread of network technologies has caused eLearning practices to evolve significantly (Kahiigi et al., 2008).

The pandemic Covid-19 has compelled human society to maintain social distancing and it has not allowed us to continue our education through the traditional face to face mode. It has taught us to opt for platforms with technologies, which have not been used before. In this situation, many students are preferring their education through Open and Distance Learning (ODL) or online learning mode. Most of the educational institutions are also offering online support services to tackle the pandemic Covid-19 situation. During the Covid-19 pandemic education stopped in most countries of the world, but the Taif University in Kingdom of Saudi Arabia directly transferred education there is no delay and there is no interruption to e-learning. The readiness of the electronic educational environment has helped in this, including educational platforms such as (Blackboard, Noodle, ILIAS), trained teachers, and the power of the Internet.

To understand the effectiveness of online learning using students' results from two departments of Taif University (English Language & Computer Sciences departments).

2. Literature Review

Immediate access to people and information through technology is increasing, and this is transforming our everyday lives. Using connected mobile tools such as smartphones, tablets, and laptops, we purposefully "blend" physical and online activities to create optimal experiences (Stein & Graham, 2014).

Online learning has been part of the educational practices in Saudi Arabia for years. The utilization of computers in teaching and learning in schools in Saudi Arabia started during the 1990s. In 1996, the Ministry of Higher Education (MHE) established the Computer and Information Center (ICT) that offers services to schools and educational institutions (Al-Asmari & Khan, 2014).

Compose a brief description of the type of learning environment your students should expect and include this in your syllabus. Each college professor has his/her own style. Communicating how you approach your class and the role that emerging technologies play will allow you to share your style and expectations and encourage students to be more productive. However, the most important element of a class philosophy is making a commitment to modeling it throughout the semester. A philosophy is only words on a page—the time your

students spend in your class will infuse it with meaning (Pacansky-Brock, 2017).

Learning online can be as exasperating for the student as for the instructor, particularly for those taking an online course for the first time. Suddenly thrust into a world in which independent or collaborative learning is heavily stressed, students accustomed to traditional classroom procedures—taking notes during a lecture, answering the occasional question, attending discussion sections—must make unexpected and often jolting adjustments to their study habits (Ko & Rossen, 2017).

Pandemic changed the pattern of our higher education. All conventional face-to-face classes turn into online classes. This makes it difficult for practice-based courses to organize quality education, because these courses rely on laboratory facilities as a place to increase student competency (Nugroho et al., 2020).

E-learning is being introduced as a fundamental part of the student learning experience in higher education. It is no longer core business only for those universities with a mission for distance education, its affordances are being systematically integrated into the student learning experience by predominately campus-based universities. Evidence of this widespread uptake can be seen in reputable research journals and on the websites of national bodies responsible for leading learning and teaching in higher education (Ellis, Ginns, & Leanne, 2009).

To be more resilient, equitable and inclusive, education systems must transform, using technology to benefit all learners and building on the innovations and partnerships that have emerged throughout this crisis. UNESCO is supporting countries in their efforts to reduce the impact of school closures, address learning loss, support teachers and adapt education systems, especially for vulnerable and disadvantaged communities (UNESCO, 2020).

The Covid-19 pandemic has already had profound impacts on education by closing schools at all levels almost everywhere; now, the damage will become even more severe as the health emergency translates into a deep global recession. This note describes the shocks hitting education systems and outlines how countries can respond to them. Even before the Covid-19 pandemic, the world was in a learning crisis. Most countries were seriously off-track in achieving Sustainable Development Goal. That goal commits the world to ensure "inclusive and equitable quality education and promote lifelong learning" for all by 2030, but so far even universal high-quality schooling at the primary level—let alone secondary, tertiary, or lifelong learning—has proven unachievable for many countries. The Learning Poverty indicator showed that, before the pandemic, 53 percent of 10-year-olds in low- and middle-income countries were not able to read and understand a simple text. And the crisis is not equally distributed: the most disadvantaged have the worst access to schooling, highest dropout rates, and lowest-quality schooling. Even with all these preparations in other areas, learning recovery will not happen without well supported teachers.

Teachers are at the heart of the learning process, and the new challenges will require them to be even more responsive to student needs (World Bank 2020).

Definitions

Computer based training, or education, has its roots in the 1960s. The technology was developed mainly for the training of individual trainees connected to a computer, but without any online support as we know it today (ISTVÁN et al., 2008).

According to Wikipedia (http://en.wikipedia.org/wiki/Distance_education) distance education, however, can be traced back to 1728 in Boston—a long time before the World Wide Web was devised in 1990. Though separated by many years, these technologies and methods of learning converged to produce what we call e-learning. There is no generally accepted meaning for the term (ISTVÁN et al., 2008).

One of the major thinkers in e-learning is Elliot Maisie, (http://www.masie.com), his definition is (ISTVÁN et al., 2008):

"E-learning is the use of network technology to design, deliver, select, administer, and extend learning".

E-learning is defined as: "E-learning means using the new multimedia technologies and the internet to improve the quality of learning".

3. Hypothesis

1) During Covid-19 eLearning increases students' scores.

2) E-learning improves students' skills by using technology during Covid-19.

4. Methodology

This paper aims at showing the effect of eLearning on students' results during Covid-19 by comparing examinations results of traditional and electronic learning.

This research analyzes two subjects during and after Covid-19 from two departments (English Language & Computer Science departments).

5. Results Discussion: Results Discussion

We analyze four courses to show the effect of online learning during Covid-19 (two subjects during Covid-19 on the blackboard (semantics & computer skills), one before (writing 1) and other after Covid-19 (computer Programming language 1)).

- Results of 24 students from English department in two courses in (**Table 1**) and there are clear differences in students' marks and that illustrate in (**Figure 1**).
- The success average during Covid-19 is 99.42% (**Table 1**) and before Covid-19 is 74.13% (**Table 1**).
- The total number of the students who got 100% are 18 students from 24 students with 75% as show in (**Table 2** & **Figure 1**).

- Only one student got 99% before Covid-19 and the rest of marks are different that show in (Table 3, Figure 2).

Table 1. English department (statistics).

		Student Number	Semantics Score during Covid-19	Writing Score after Covid-19
N	Valid	24	24	24
	Missing	0	0	0
Mean		43,682,921	99.42	74.13
Std error of Mean		11,283,513	268	2.120
Median		43,704,260	199.99	73.99
Mode		43,506,406	199	68
Std Deviation		55,277,698	1316	10.385
Variance		3E+000	1732	107.853
Range		203,343	5	39
Minimum		43,506,405	95	60
Maximum		43,709,749	100	99
Sum		1E+000	2366	1779

Source: Researchers—From students' results.

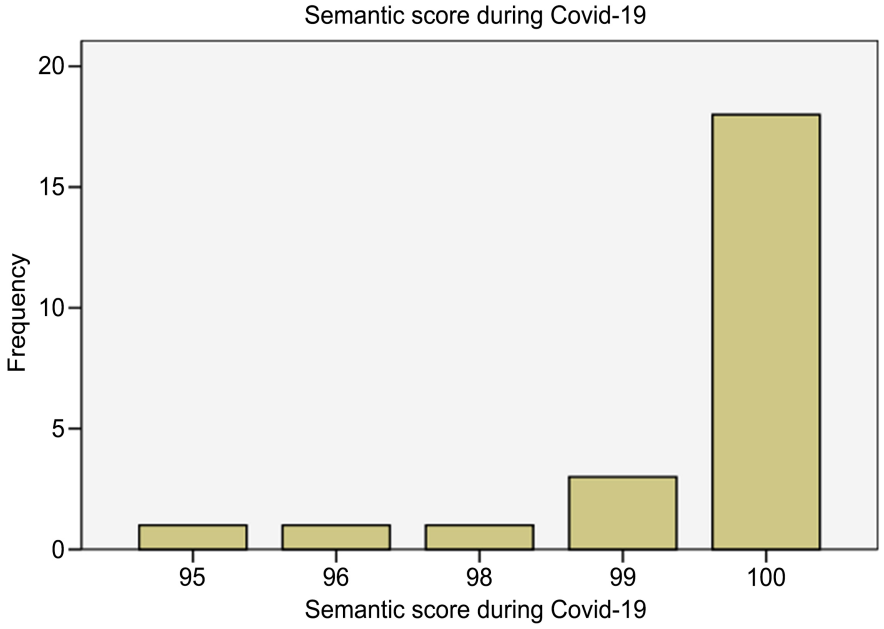

Figure 1. Semantic Score during Covid-19.

Table 2. Frequencies (Semantics score during Covid-19).

		Frequency	Percent	Valid percent	Cumulative percent
Valid	95	1	42	42	42
	96	1	42	42	8.3
	98	1	42	42	12.5
	99	3	12.5	12.5	25.0
	100	18	75.0	75.0	100.0
Total		24	100.0	100.0	

Source: Researchers—From students' results.

Table 3. Writing score before Covid-19.

		Frequency	percent	Valid Percent	Cumulative percent
Valid	60	2	8.3	8.3	8.3
	63	2	8.3	8.3	15.7
	65	3	12.5	12.5	29.2
	68	4	16.7	16.7	45.8
	71	1	4.2	4.2	50.0
	75	1	4.2	4.2	54.2
	76	1	4.2	4.2	58.3
	77	1	4.2	4.2	62.5
	78	1	4.2	4.2	66.7
	81	2	8.3	8.3	75.0
	83	2	8.3	8.3	83.3
	85	1	4.2	4.2	87.5
	88	2	8.3	8.3	95.8
	99	1	4.2	4.2	100.0
Total		24	100.0	100.0	

Source: Researchers—From students' results.

- Results of 11 students from computer sciences department in two courses (Table 4).
- The success average during Covid-19 is 95.64% (Table 4) and after Covid-19 is 85% (Table 4).

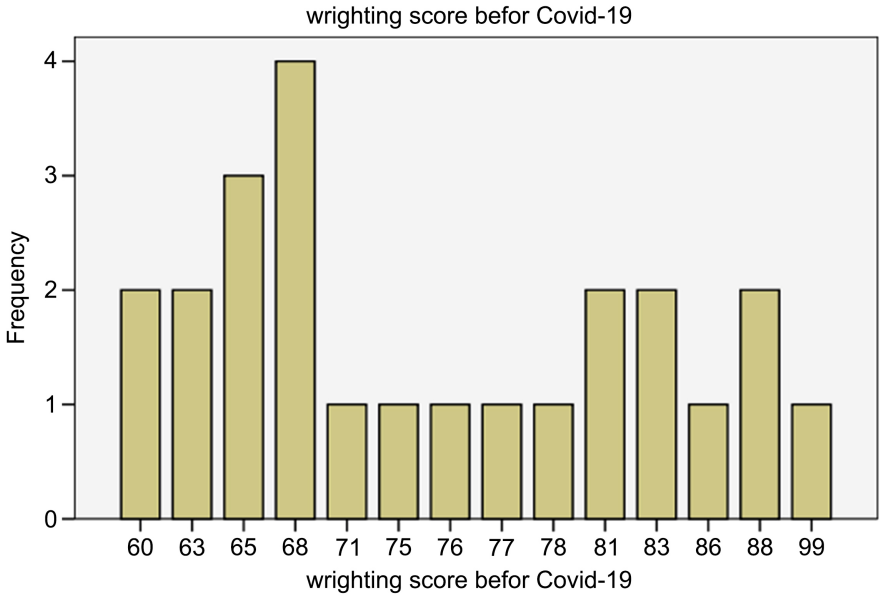

Figure 2. Writing score before Covid-19.

Table 4. Statistics (computer department).

		Student number c-department	Computer skills score during Covid-19	Programming language score after Covid-19
N	Valid	11	11	11
	Missing	0	0	0
Mean		4,410,521,582	95.64	85.00
Std error of Mean		728175	152	2136
Median		4,410,694,300	96.00	86.00
Mode		44,102,501	96	75
Std Deviation		2,415,084	0.505	7.085
Variance		5,832,631,564	0.255	50.200
Range		6320	1	20
Minimum		44,102,501	95	75
Maximum		44,108,821	96	95
Sum		48,168,385	1052	935

Source: Researchers—From students' results.

- During the Covid-19 students got between 95% and 96% marks, so clearly there are no differences, four students got 95 and five students got 96 and these illustrate in (Table 5, Figure 3). But after Covid-19 there are variation in the students marks the maximum mark is 95 and the minimum mark is 75 the differences between marks is 20 and these show in (Table 6, Figure 4).

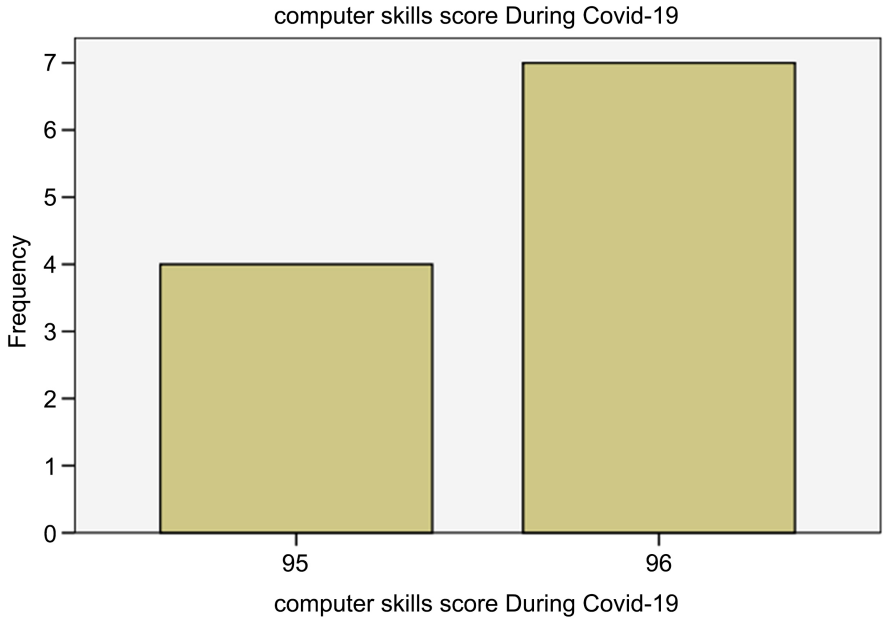

Figure 3. Computer skills score during Covid-19.

Table 5. Computer skills score during Covid-19.

		Frequency	Percent	Valid percent	Cumulative percent
Valid	95	4	36.4	36.4	36.4
	96	7	63.6	63.6	100.0
Total		11	100.0	100.0	

Source: Researchers—From students' results.

Table 6. Programming language after Covid-19.

		Frequency	Percent	Valid percent	Cumulative percent
Valid	75	2	18.2	18.2	18.2
	80	1	9.1	9.1	27.3
	81	1	9.1	9.1	36.4
	82	1	9.1	9.1	45.5
	86	2	18.2	18.2	63.6
	90	2	18.2	18.2	81.8
	95	2	18.2	18.2	100.0
Total		11	100.0	100.0	

Source: Researchers—From students' results.

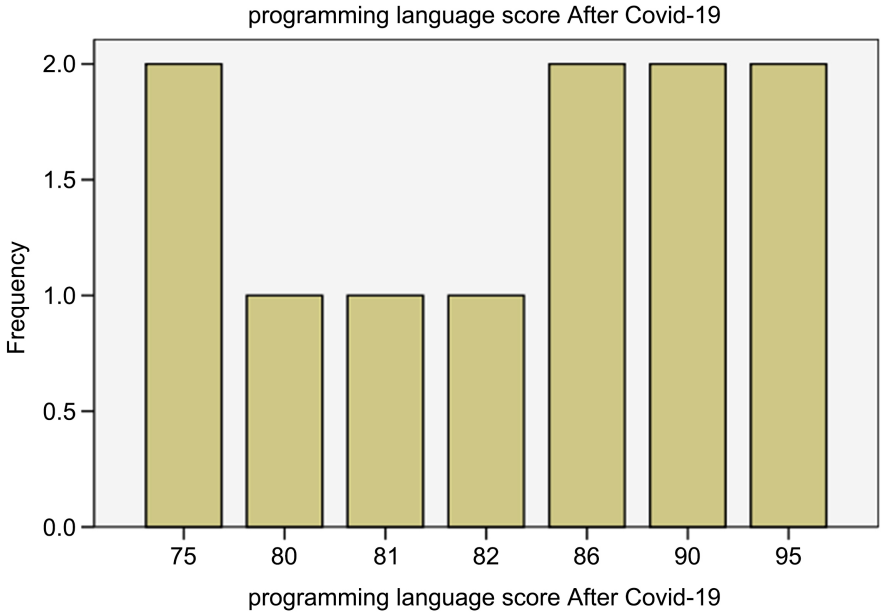

Figure 4. Programming language score after Covid-19.

The results during eLearning show that the high marks due to:

- These generations are very keen to technology and eager about it.
- Technology is interesting, flexible, and fun.
- Students can easily access to it at any time and place.
- Students able to find various sources in web site. Some students may be shy during traditional classes (face to face), but will participate behind the wall during eLearning.

6. Conclusion

In recent decades, a technological revolution has taken place in large parts of the modern world.

E-learning is improving the quality of learning and according to this paper we advise teachers to use eLearning in teaching learning process.

Acknowledgment

Thanks to the Deanship of eLearning and Information Technology at Taif University.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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