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## ECONOMICS

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*Sociology*

Davidovitch, N., & Eckhaus, E. (2022). Economics of time: Advantages of e-learning in proportion to the time utilized and the tradeoff between work and studies. *Economics and Sociology*, 15(2), 222-235. doi:10.14254/2071-789X.2022/15-2/14

### ECONOMICS OF TIME: ADVANTAGES OF E-LEARNING IN PROPORTION TO THE TIME UTILIZED AND THE TRADEOFF BETWEEN WORK AND STUDIES

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*Received:* July, 2021

*1st Revision:* April, 2022

*Accepted:* June, 2022

DOI: 10.14254/2071-  
789X.2022/15-2/14

**ABSTRACT.** The COVID-19 pandemic created a disruption of the educational system. The transition to e-learning in a state of emergency involved breaching barriers and challenges for both faculty and students. In the current study, we examine the opinion of students on the advantages of e-learning, in a systemic, multi-institutional perspective. Based on 1,859 respondents from several academic institutions, we employed a mixed methods research, combining quantitative and qualitative techniques. The findings show that variables related to time saving significantly affect the preference for e-teaching. In contrast, money-saving variables were not found to be significant. Reduction in travel time was found to be the most important dimension involved in the preference for e-teaching, followed by the convenience of studying from home and lesson recordings. These measures emphasize the advantages of digitization in the modern era and the option of perceiving learning as a consumer product that does not require physical presence. Globalization has facilitated e-commerce with no geographical barriers, from the convenience of one's home or organization, together with a significant reduction in time required. However academic institutions are lagging in this regard. The COVID-19 era has raised the need for the academic establishment to adapt to the new reality and the advantages of technological modernization in the 21st century.

**JEL Classification:** J22, R41,  
A2, I2

**Keywords:** Covid-19, e-learning, academia, time economics, time saving

## Introduction

Teaching and studying during the time of COVID-19 are questioning the status of lecturers in academia. The lecturer is no longer an authorized representative of the system of higher education, responsible for exposing the students to knowledge and values and for providing tools for life in modern society. Rather, the lecturer is defined as a service provider,

whose customers are the students and their employers (Huang, Liu, Tlili, Yang, Wang, Zhang & Cheng, 2020).

Since the lecturer is perceived as a service provider, they are pressured by the students to raise their achievements, and this pressure justifies shortcuts (Altbach, & De Wit, 2020, Benade, 2017). The students demand that the lecturers “raise their grades” and express their opinion of the service by means of teaching surveys (Viner, Filk, & Kortuykov, 2015, Clark, 1994). Students with a high socioeconomic status prefer a private service provider tailored to their needs (Salmon, 2019 & Song, Singleton, Hill & Koh, 2004).

This study examines the opinions of students on the advantages of e-teaching from different aspects, in a systemic multi-institutional perspective. The study’s point of departure is the competition for students’ time, in the perception that time is a precious resource for all people, and all the more so young people who are simultaneously studying, working for a living, seeking to build a home-family and their society. Study time is a time in which a battle is waged, whether explicitly or implicitly, for the most precious resource of young people – their time (Berger-Tikochinski, Cohen, Haddad, & Manny-Ikan, 2020).

## **1. Literature review**

### ***1.1. Education as a consumer product***

A fresh and unusual way of thinking stresses a perception that presents the student as a customer and education as a product to which every person is entitled. Researchers refer to the virtual study sphere as one that is generating a cooperative and productive society and that has an important role in the global economy (Hodges, Moore, Lockee, Trust & Bond, 2020).

The technology revolution has changed how students communicate, manage their life, and consume information. Technology can also change how students learn and makes it possible to bridge gaps in Israeli society and to grant equal opportunities to disadvantaged populations or advance sectors whose contribution to society and to the economy is not commensurate with their proportion in the population (Guo, Ziao, Van Toorn, Lai & Seo, 2016).

New studies refer to a fresh and unusual way of thinking that anticipates the future, one that embraces “disruptive innovation” and seeks opportunities in new and unusual places (Almog & Almog, 2020). The theory of disruptive innovation redefines the concepts of “customer” and “consumer” and seeks a new approach that allows certain groups to consume products or services that were not previously accessible to them (Zaharah, Kirilova & Windarti, 2020).

The virtual world makes it possible to form a new study structure that does not erase the traditional structures but meets the needs of a certain group, in cases when the traditional structure has failed. For example, students at schools in the geographical periphery were unable to take an expanded matriculation exam in math and physics because their schools did not offer these tracks, mostly due to the small number of students that did not justify opening a track or due to a lack of teachers for these expanded subjects (Volansky, 2020).

According to the disruptive innovation theory, these students are unable to consume the “product” – an expanded matriculation exam in math and physics. New technologies that eliminate the time and space restrictions, offer us possibilities for developing products that will allow these groups to consume the “product”. In this case, we make it possible for students who were previously prevented from doing so to study for an expanded matriculation exam in math and physics, which is a precondition for academic studies of medicine, engineering, and scientific subjects (Davidovitch & Eckhaus, 2021).

Israel has a virtual high school led by the Ministry of Education, which allows students in peripheral areas to study for an expanded matriculation exam in math and physics – a “product” that, as stated, was previously denied them. The virtual high school lets students from different schools study together in the virtual classroom with the best teachers; enjoy advanced study materials, including simulations, interactive study plans, and exercise assignments that are available to them 24/7; work with virtual tutors, outstanding university students who help them prepare their homework and review material they did not understand, in small groups (Wadmany, 2017, 2018).

Information on student activity is monitored and allows the teaching staff to follow struggling students in real time and get back on track in their studies. This is a completely different reality than that experienced by teachers in a physical classroom at school, who become aware of the student’s progress only once every few weeks – after a test (Weissblei, 2020).

Moreover, all the virtual lessons and exercises are recorded in full and are accessible to students and teachers, such that they can review and follow the solution of a problem or watch a complex explanation that they did not understand during the lesson. This constitutes a huge advantage that was previously not possible, one that may at times determine the success of a student who otherwise would have failed.

The field of economics discerns, in addition to physical capital, another type of capital as well, which is no less critical as a means of production – human capital (Volansky, 2020). When investing in human capital such as education, three main economic effects can be expected:

1. Increasing the accumulation of human capital requires increasing expenditures, just as increasing physical capital requires investment. These expenditures are called investment in human capital.
2. Investment in human capital leads to increased productivity among individuals when people gain traits that enable them to produce more output.
3. The yield on investments in education is calculated in the form of higher revenues.

### ***1.2. The consequences resulting from the rapid opening of the higher education market***

The rapid growth of the higher education market in Israel by establishing local branches of foreign schools as part of the diversification of higher education available to the Israeli public and to prevent the hegemony of Israeli universities, should be examined in light of the results of this policy (Volansky, 2020). The basic premise of the free market is that the client seeks to ensure receipt of a high-quality product in return for his financial investment, and for this purpose he himself supervises the quality of the product sold to him. This premise was disproved by the conduct patterns of a considerable part of the students with regard to the acquisition of higher education as a consumer product on the free market. It became evident that in a considerable number of cases the desired product is an academic degree that will be recognized mainly for purposes of salary in Israel, where the quality test related to the status of the proposed degree in the branch’s country of origin, as well as the status of the patron institution, were rendered insignificant or were not questioned at all.

### ***1.3. E-teaching – higher education***

The study shows (Lehman-Wilzig, 2020) that one is capable of easily forming a remote connection, “emotionally” and “intellectually”, both to inanimate objects (the infant’s blanket) and people, by means of various media technologies. Thus, for example, the telephone has been

connecting (and not alienating) people socially in the deepest sense for over a century. So why is hearing a friend from afar “okay” but “corresponding” with him causes alienation? And is reading a book not “virtual”, when the author provides only words and the readers imagine an entire world as a consequence? And is it “okay” to listen to music on a record player or MP3 instead of in a concert hall, but using an almost omnipotent medium (the internet) is no longer so “humane”?

We shall relate mainly to the third type. At present it is self-evident that every academic course is accompanied by a supporting website. Why should most of these not be fully online? Because full e-teaching is not merely a “cheap replacement” for teaching in the classroom (Lehman-Wilzig, 2020). It must be declared outright: lecturers who are looking for an easy way out and think that e-teaching is a matter of “uploading the written lecture to the website – and see you at the end of year exam” are making a big mistake. It is hard work with one logistic advantage: there is no need to be physically present in class.

Lehman-Wilzig (2020) summarizes the advantages of the online course:

1. Better learning: The most important advantage is a pure pedagogic advantage. A course website enables better and more beneficial teaching than any other course type. For example, when a lecturer teaches in class, there is probably some “drifting” to nearby issues and/or a need to stop and explain this term or another. This, of course, takes precious time from the lesson. In an online lecture, the lecturer provides a link to a certain term or section – and the students themselves access the website, for an explanation that enriches and intensifies the learning without taking time from the lecture, since the students decide when to read the background material.

2. Rich and calculated classroom discussion: What happens in class when you wish to have a discussion? First of all, there is not enough time for everyone to participate. Secondly, quite a few are embarrassed to speak in the physical presence of other students. A survey in the US (Lehman-Wilzig, 2020) revealed that the second gravest cause of people’s fear is death; the first is stage fright! If you do speak, the response must be quick – there is not much time to think about what you say, “Shoot first and think later”. Also, the lecturer can’t respond to every comment of each student and certainly can’t assess the contribution of each one to the flow of the discussion in class. In contrast, in an online discussion (“forum”) everyone can respond; there is no problem with embarrassment; there is time for everyone to consider well what they want to write before submitting it to the discussion; and everything is recorded for the lecturer’s examination and response when convenient for him. Lehman-Wilzig (2020) adds: The level of classroom discussions is not comparable to online discussion – the latter is much more serious and thoughtful, not to mention the option students have to include references from the internet in support of their arguments!

3. The peace of mind necessary to study: E-teaching is asynchronous, i.e., each student accesses the material when convenient for him. What happens in class, particularly in the Israeli circumstances? Students run from a hard day at work directly to class and at an uncomfortable hour they must concentrate in several classes consecutively. Even if all the lecturers are exemplary speakers, it is very hard for students to concentrate in such a situation. In contrast, e-teaching allows each student to learn whenever he is mentally available. In addition, for quite a few people this advantage is what makes studies possible to begin with (particularly new mothers!), as if these people must adapt the class schedule to work, family, and chores, then it would be completely impossible for them. So it may be said that e-teaching constitutes a very important tool for bridging social gaps, while giving people with an overloaded life the opportunity to acquire an education (Volansky, 2020).

4. Independent learning: In the 21st century, the most important skill is the ability to study independently. Knowledge becomes outdated quickly and even after completing a degree,

the material learned will no longer be so relevant in a matter of several years. Without the ability to learn and think independently, people will become lost. E-teaching obviously requires students to be more independent in their studies, and also to be even more critical (Almog & Almog, 2020).

5. Acquiring ICT skills: At present nearly 60% of all workers in the modern economy are already occupied mainly with science: locating, processing, creating, distributing (Lehman-Wilzig, 2020). In order to succeed in this world, students must develop “technical” skills through the computer. E-learning is excellent “practice” for this purpose. This includes, among other things, how to properly evaluate the trustworthiness of various sources on the internet (Is Wikipedia trustworthy or not? What search engine is best for different purposes?). I.e., e-teaching does not only teach contents but rather also trains both technical and didactic skills. Obviously, e-teaching is not suitable for all students – some need direct contact and can’t/ are not ready to learn on their own. Then again, the tools at our disposal at present are primitive compared to those that will emerge in the next few years, such that the options of e-teaching together with “body language” will expand. The question is: Isn’t there some advantage to physical presence on campus? Can the virtual relationship answer all needs? The experience (and the existence) of academic studies in Israel is unlike that in Europe and the US (Almog & Almog, 2020), where students live together for four intensive years. In the Israeli situation, students make short visits to the campus and promptly flee back to their “life” (work, family, etc.).

The literature indicates that academic institutions are operating on a capitalist conception (Davidovitch et al., 2012) that includes a loss and profit set of considerations, with decisions on academic matters based on collaborations between academia and industry, locating investors, and management efficacy (Hoffman, 2011). However, the skills required for the new era of digital learning are necessary also in the industry, which is also changing with its demands due to the recent global turmoil. Students, which are aware of these changes are facing new decision making process when it comes to selecting an education institution. This may lead to different revenue outputs to the universities. Perceiving the educational system as an economic instrument is nothing new and underlies the establishment of modern universities (Scott, 1995). As a result, the academic institution can evaluate time as bearing economic significance, i.e., time equals money. This conception is accentuated when taking into account that a considerable part of one’s motivation for acquiring a higher education, in addition to education-related motives, is the aspiration to develop one’s career (Greene & Minton, 1989) and to improve one’s employment options in general (Canny, 1995).

## **2. Methodological approach**

### **2.1. Sample**

We distributed a survey to students from 11 academic institutions using Google Forms. The survey included an open-ended question regarding the benefits of the need for online teaching, which occurred due to the current Covid-19 pandemic. Another question was a Likert scale closed-ended question (from 1- completely disagree, to 5- completely agree): I prefer online teaching to frontal lessons (Online Teaching Preference (OTP)).

Fully completed questionnaires were collected from 1859 respondents who agreed to participate in the survey, at the end of 2020. The majority of the respondents were from three of the institutions: Ariel University (887), Sami Shamoon College (385), and Tel-Hai College (141). While the number of participants from the latter two institutions may not be

representative for specifically the institution itself, such a significant number is representative for the general population of students.

The gender ratio was 53.8% females and 46.2% males. The age of the respondents ranged from 18-28 (73.7%), 29-52 (24.9 %), and 53-67 (1.4 %).

## 2.2 Analysis

We analyzed the data using a mixed methods approach (Denscombe, 2008). First, we manually analyzed all the responses to the open-ended question and identified the main categories. Each response was coded 0 if the response did not belong to the category, and 1 if it did (Eckhaus & Sheaffer, 2018). All the variables were extracted from the same open ended question, thus we placed correlations between the variables. Table 1 details the themes.

Table 1. Main themes

Group categories	Variable symbol	Category	N
Lesson recordings	C3	Recorded lessons enable watching when convenient for the student	289
	C4	Petrol	79
Saving time and money	C5	Money	105
	C6	Transferring between classes	53
	C7	Travel time	488
Utilizing time	C8	For work	61
	C10	For studies	65
	C11	Managing schedule	184
Flexible place of study	C25	No need to physically attend class	102
	C26	Option of studying anywhere	78
	C27	Comforts of home	289

Source: own compilation

Structural Equation Modeling (SEM) was employed for goodness-of-fit assessment (Levy & Eckhaus, 2020). The fit indices used were CFI, NFI, RMSEA, SRMR, and the ratio CMIN/DF. Acceptable fit is indicated by the following indices: CFI and NFI > .9 and CMIN / DF < 5 (Andrew Chin et al., 2018), RMSEA and SRMR values < 0.05 (Kircaburun & Griffiths, 2018).

## 2.3. Qualitative analysis

The main categories extracted are presented as follows. Some categories were omitted during the manual classification process. The manual categorization is a long process, where each text is read, and interesting themes are marked. If the theme reappears, it may be used, otherwise it will be deleted in the process. therefore, there may be dozens of categories that are initially marked but later removed.

### 1. Recorded lessons allow students to watch when convenient for them C3

- “You can return to the lessons at any time, and access them when you’re available”.
- “Comfort and the fact that it is possible to watch the lesson at other times (assuming that it is recorded) are a huge advantage of online studies”.
- “Varying the study hours according to personal needs”.

- *"In the heritage class I could sit calmly in my free time, read the presentation at my leisure, and do the homework with no stress, compared to the previous semester when I had to be present although I had tons of assignments for other classes".*

## **2. Savings**

### **a. On petrol C4**

Students who walk clearly will not mention this theme. This theme was mentioned by students who need transportation in order to get to the university.

- *"It saves on petrol".*
- *"It saves 3 hours of travelling every day, a cost of 90 shekels for petrol every day"*
- *"There is no need to travel all the way to Ariel and to waste petrol".*

### **b. Money C5**

- *"Saving on monetary expenditures for buying materials in order to build models and printing out sheets for every submission, where there are about 5 submissions throughout the semester".*
- *"It saves on living expenditures".*
- *"It also saves on rent. The rent at Ariel is very expensive! (Sometimes the cost of rent per meter at Ariel is identical to the cost of rent per meter in Tel Aviv!) Apartment owners in Ariel are not considerate of the students, so during the Covid period many left their apartments and saved money".*
- *"Saving money (petrol/ meals that I buy more because I'm away from home)".*

### **c. Transferring between classes C6**

- *"And you no longer have to be nervous about being on time for each lecture".*
- *"Finally, thanks to e-learning, finally we have breaks (that aren't really usable); finally you don't have to waste a break on running from building to building, and on trying to catch a good seat!"*
- *"Wasting time due to holes in the schedule between classes".*
- *"You don't have to rush and run from class to class at the end of the lesson".*

### **d. When travelling C7**

- *"No long trips to the university every day".*
- *"My time is not wasted on traveling and can be used more effectively".*
- *"It saves a lot of time when there is no traveling, you have more patience to listen".*
- *"No traveling – ability to utilize the time between lessons, before and after. Less travel expenditures".*

## **3. Utilizing time**

### **a. For work C8**

- *"I can work and support myself during this period, because the time can be managed comfortably".*
- *"I can study while working and earn a salary".*
- *"The option of combining work, because I don't have to travel to the university and my job (supermarket) is close to home".*
- *"The ability to work and make up the lectures later, when convenient for me".*

**b. For studies C10**

- *"More spare time to concentrate on the studio or on other courses".*
- *"The time and energy invested in traveling to Ariel (for those who come from afar) are channeled into time for learning something".*
- *"Staying at home leaves me more time to focus and work on my final project. Travelling to the university wastes precious time needed to proceed with the project".*
- *"More time to invest in lessons, less traveling and transfers between classes".*

**c. Managing the schedule C11**

- *"I can manage my time better".*
- *"Optimal utilization of time".*
- *"Ability to make better use of my time, I am less overburdened because sometimes I can play with the times when I watch the (recorded) lessons and that way I'm not overloaded and I do better at my studies".*
- *"It allowed me to study much better and more thoroughly according to the times when I am available, to concentrate better and to maintain the pace".*

**4. Flexibility of the study location**

**a. You don't have to physically attend class C25**

- *"I manage to save lots of time because it is not necessary to physically travel to the university, and that is very nice".*
- *"You don't have to rush to the university".*
- *"It saves having to be physically present and personal management of your time".*
- *"The only advantage is that you don't have to be physically present at the university".*

**b. You can study anywhere C26**

- *"The fact that you can study anywhere makes it much easier".*
- *"You can participate from anywhere, without being physically present".*
- *"You can study anywhere and with better conditions".*
- *"Learning from home or from some other comfortable environment".*

**c. Comforts of home C27**

- *"The comfort. No matter where I come from, it is not necessary to travel according to the university's needs and I can stay where I live".*
- *Classes with the same quality from home at convenient times and with no disturbances".*
- *"You don't have to leave home, search for parking, you can watch the lesson at other times".*
- *"Learning from home allows more flexibility and maximal utilization of time and of the hours of the day".*

As stated, the point of departure for this study is the competition for the students' time, in the conception that time is a precious resource, for everyone and all the more so for young people who are simultaneously studying, working for a living, seeking to build their home-family and their society. The time devoted to studying is a time in which a battle is waged, whether explicitly or implicitly, for a precious resource of young people – their time.



### 3. Empirical results

Spearman's correlations, means, and SD are presented in Table 2. Figure 1 presents the basic model, and standardized coefficients. Since Categories were binary coded, as explained in Analysis, Spearman correlation is required.

Table 2. Correlation matrix, means, and SD

	<i>C3</i>	<i>C4</i>	<i>C5</i>	<i>C6</i>	<i>C7</i>	<i>C8</i>	<i>C9</i>	<i>C10</i>	<i>C11</i>
<i>C3</i>	-								
<i>C4</i>	.013	-							
<i>C5</i>	-.041	.237***	-						
<i>C6</i>	-.020	.012	.042	-					
<i>C7</i>	-.040	.196***	.272***	.170***	-				
<i>C8</i>	.096***	.036	.020	.005	.027	-			
<i>C9</i>	-.020	.058*	.043	-.022	-.008	.096***	-		
<i>C10</i>	.007	-.026	.004	.055*	.086***	.162***	.022	-	
<i>C11</i>	.042	.011	-.003	.008	.011	.040	.043	.055*	-
<i>C12</i>	.007	.012	.000	.107***	.023	.077***	.004	.055*	.030
<i>C25</i>	-.032	.043	.002	-.013	.001	-.044	.007	-.033	-.040
<i>C26</i>	.043	.009	.065**	-.036	-.003	-.008	.016	-.025	-.006
<i>C27</i>	-.086***	.013	.062**	.025	.098***	-.029	.028	.007	-.023
<i>Gender</i>	-.005	-.013	-.026	-.010	-.026	-.007	-.007	-.041	-.025
<i>Age</i>	.018	.036	.012	-.012	.118***	.027	.036	.003	.000
<i>Q48</i>	.128***	.053*	.089***	.054*	.214***	.085***	.035	.090***	.124***
Mean	.16	.04	.06	.03	.26	.03	.02	.03	.10
SD	.362	.202	.231	.166	.440	.178	.126	.184	.299

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Source: own compilation

Table 2. Cont

	<i>C12</i>	<i>C25</i>	<i>C26</i>	<i>C27</i>	<i>Gender</i>	<i>Age</i>	<i>Q48</i>
<i>C12</i>	-						
<i>C25</i>	.001	-					
<i>C26</i>	.045	.079***	-				
<i>C27</i>	-.002	.066**	.043	-			
<i>Gender</i>	-.016	-.010	.011	-.094***	-		
<i>Age</i>	-.028	.004	.018	.083***	.133***	-	
<i>Q48</i>	.058*	.051*	.079***	.108***	-.057*	.159***	-
Mean	.03	.05	.04	.16	.46	27.88	2.88
SD	.166	.228	.201	.362	.499	7.327	1.666

\*\* $p < .01$ . \*\*\* $p < .001$ . † $p = .05$

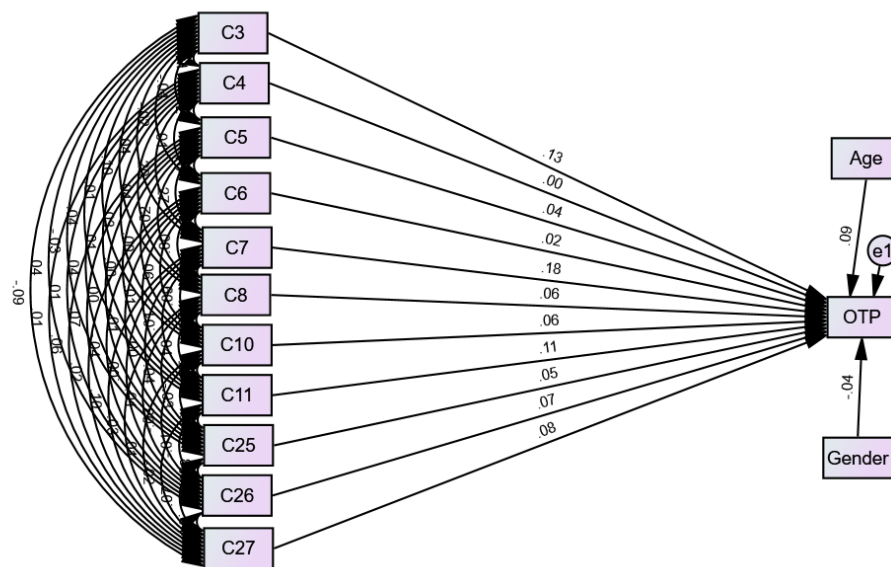


Figure 1. Model and standardized coefficients  
Source: own compilation

The hypothesized model showed good fit: CMIN/DF = 3.39, CFI = .93, NFI= .91, RMSEA = .04, SRMR=.02. All the variables except C4, C5, and C6, had a direct positive effect on OTP. Variable C3, C7, C11, and C27, were significant at  $p < .001$ . Variables C8, C10, and C25 were significant at  $p < .05$ . C26 was significant at  $p < .01$ . Age had a positive effect on OTP ( $\beta = .09$ ,  $p < .001$ ), Gender had no statistical effect on OTP ( $p > .05$ ).

Next, we examined whether Age or Gender mediated C4, C5, and C6 to OTP (Figure 2).

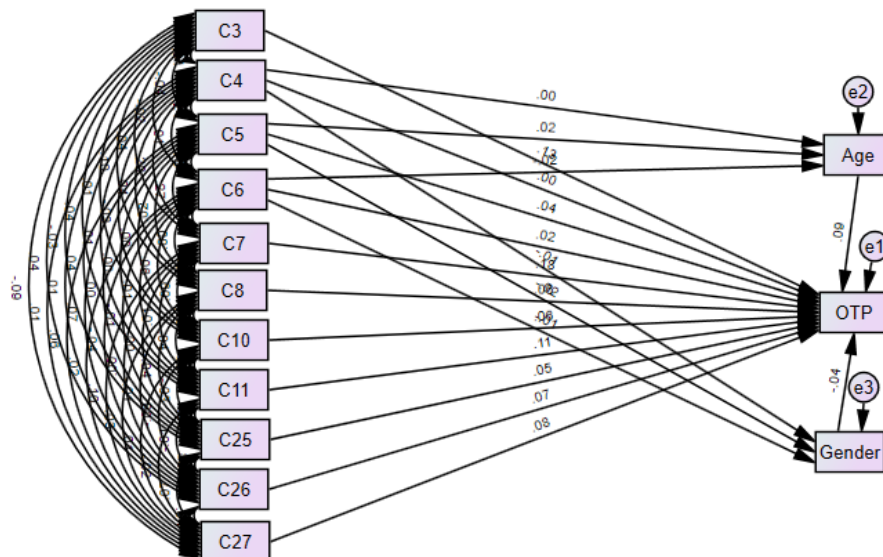


Figure 2. Age and Gender added as mediators to C4, C5, C6  
Source: own compilation

However, the results showed that C4, C5, and C6 had no statistically significant effect on Age or Gender.

#### 4. Discussion

The COVID-19 pandemic clarified students' alternatives and choices for utilizing their time. The battle for the student's study time became more intense. The ability to be present or not be present in class, to allow a camera, sound – or not. In the current study we examined students' opinions on the advantages of e-teaching from various aspects in a systemic multi-institutional perspective.

All the variables related to saving time were found to significantly affect the preference for e-teaching. Variables related to saving money were not found to be significant. This shows the pressure applied to students, whereby time has a critical role in preferences for e-teaching. Transferring between classes, which is no longer necessary, is not significant, indicating that although it was identified as an advantage of e-teaching it might insinuate a lack of social interaction.

Saving on travel time was found to be the most important parameter generating a preference for e-teaching, followed by the convenience of studying from home and lesson recordings. These parameters emphasize the advantages of digitization in the modern era and the option of no longer having to attend everything physically. Globalization allows e-commerce from any place to any place in the world, from the comfort of one's home or organization, together with significant time saved, but the academic institutions are lagging behind. This era raises the need for the academic establishment to adapt itself to the new circumstances and to the advantages of technological modernization in the 21<sup>st</sup> century.

The research findings also indicate students' expectations of the lecturer in the digital era. Successful e-Learning requires pedagogic organizational approaches suitable for the digital platform and a perception of learning as a consumer product that lecturers must provide.

Although the findings of this study attempt to illuminate learning in a period of health crisis imposed on students, its findings might have possible meaning for learning processes once the current crisis reaches its end as well. Specifically, it is evident from the research findings that a thorough discussion must take place among policy makers in higher education and academic institutions on study time at the campus itself, on the distinction between virtual and actual in the stages of learning by type of course, school year, student features, faculties – and on the challenges and ways of dealing with the new circumstances, where time is in high demand.

Everyday life can be imagined as a continuous path through space and time (Schwanen & Wang, 2014). Results underline the importance of the two parameters, manifested in advantages of flexible place of study, and better time utilization. These results imply a shift that the academic institution is forced to consider, a battle over students' time. The Covid-19 pandemic introduced another possibility for teaching and learning, one in which geography is not a barrier and time is better used. It will be hard to return to the previous traditional approach which forces students to physically attend to their entire classes, and some policy changes would need to occur.

#### Conclusion

Results from this exploratory study offer a clear perspective on the advantages of e-learning.

We live in a multichannel world, fighting for students' attention and concentration. In the Multi-channel learning environment, The Multi-channel learning system aims to sync and synergize the power of various media to achieve optimal learning (Mukhopadhyay & Parhar, 2001). The teaching has become more demanding as a result of the integration of technology

in teaching (Weisberger, Grinshtain & Blau, 2021). Teachers are now forced to master different communication channels in order to teach, educate, and communicate with students, which will also affect their teaching evaluation (Davidovitch & Eckhaus, 2019; Eckhaus & Davidovitch, 2019). At the same time, students have now witnessed the possibility to optimize their time and are not ready to give up the newly opened education channels.

Indeed, we have collected a large sample of students from a range of practices, however, all students are from the same country. An interesting extension to this study would be to analyze and assess the findings based on different cultures. Another useful extension would be to investigate these findings in emerging economies, particularly in countries with learning poverty (Jagannathan, 2021). The relationship between inequality of schooling and income inequality were found, especially in emerging and developing economies (Coady & Dizioli, 2018). The implications of the multi-channel teaching environment highlights once again the importance of supporting every student in need, in order to allow every student the opportunity for a promising future.

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