

The effect of post COVID-19 on public higher education institutes – external studies

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Abstract. Many academic institutes were forced to close their campuses during the COVID-19 pandemic and to develop alternative teaching programs. In this pioneering study, we examine the effect of COVID-19 on the off-campus learning experience of university students in public institutes that is in addition to the on-campus learning experience. Off-campus learning is defined as a learning experience that complements frontal learning and includes digital courses from other academic institutions, lessons given by private/commercial entities, and classes given outside the campuses by external practitioners. The study is a quantitative study based on a survey of attitudes conducted among students, in a case study of a university in Israel. The study involved 118 students from the Faculty of Engineering at a public university. The study was conducted shortly after the return of students to the campus, following the long periods of off-campus studies. We examined the dimensions of online teaching, based on the theory and model of Hativa (2015). In addition, we analyzed the statements that express students' perceptions of online teaching. The results of the study show an unambiguous picture: The COVID-19 pandemic revolutionized the learning habits of students. This revolution is very quiet, but very significant and is characterized by reduced attendance of students on the campuses, and by a significant involvement of private/commercial entities in the academic programs. Information about the trends of off-campus courses sheds light not only on the learning habits of students today, but also draws lines on possible future learning trends.

Keywords: Higher education, COVID-19 pandemic, off-campus learning, digital courses.

INTRODUCTION

The COVID-19 pandemic affected almost all aspects of life around the world, including academic studies. Although some medical experts claim that the pick of the pandemic is over, its effects will probably remain for a long time. A report published by the United Nations Academic Impact (UNAI, 2015a) forum points out five categories related to higher education that must be changed following the COVID-19 pandemic (Wadmany, 2017, 2018): (1) continuity of teaching and research; (2) employment of students already placed in the job market; (3) shift in the

learning process, behavior and new resource development; (4) the ability to afford higher education; and (5) facilitating quality higher education in changing times. The report recommends innovative cross-border and cross-sectoral collaborations. The Global Education Coalition by UNESCO (UNAI, 2015b) claims that "partnerships at national and international levels are needed to promote open, flexible and relevant learning systems during times of crises". They also claim that there is a need from the UN and other international bodies, as

well as governments, to finance the participation of the private sector in academia.

A historical review of the higher education system in many countries shows significant changes that have taken place in higher education, which were reflected in the goals of the institutions (Iram, 1987). Higher education has undergone upheavals from the imposition of higher education - to the imposition of a profession; from the view of education as a goal - to education as a means; from learning for its own sake and from the expansion of knowledge and the value of research and discovery - to technological studies and applied science; from learning with the value of excellence - to learning where the most prominent value is equality for all (Schmide, 1987), and in the COVID 19 era – from internal resources to the commercialization and outsourcing of teaching and learning processes. Many academic institutions nowadays hire the services of external business entities, specializing in digital learning technologies, and in many other academic institutions, external businesses take part in the academic programs, sometimes without official recognition of the institutes.

The higher education system in many countries is currently undergoing significant changes, and therefore there is a need to redefine its goals. In a world where knowledge is exposed to all, there are attempts to produce teacher-lecturer substitutes, and there are more accessible and convenient ways that enable more efficient and personalized learning techniques. In light of the effects of capitalist globalization, on the one hand, and the changes in the status of knowledge and the human subjective status in the transition to the postmodern state, on the other hand, universities are required to recognize knowledge production as a relevant topic according to the criteria of technological contribution and prevailing cultural fashions. The market trends (as indicated by the clients – the students and future employers), and not the intellectual ethos, become the dominant factor. Some praise the privatization of higher education and proudly point out that from now on the academic "stars" will be properly rewarded, while the "gray", weak, or untalented academic lecturers will simply vanish, even if some contemporary science will disappear.

Following the trends described above, the objective of this study is to delineate the off-campus learning experiences, which is an addition to the on-campus learning experience, about two and a half years after the eruption of the COVID-19 pandemic. The research questions are:

1. What are the benefits of off-campus learning that are additions to on-campus learning according to the dimensions of optimal teaching?
2. What are the difficulties in on-campus learning for which off-campus lessons are needed?
3. What needs to be done to improve on-campus teaching to reduce the need for additional off-campus teaching?

4. Does attendance at classes depend on the ability to complete the course material from sources outside the campus as well?

5. Given the off-campus experience, would students prefer to take online courses without going to campus?

Students' off-campus learning experience, which complements the traditional frontal learning experience, was examined. The off-campus study experience includes:

- Studying digital classes from other academic institutions or the network (e.g. YouTube)
- Learning from lessons given by private entities
- Teaching reinforcement classes outside the university by private external practitioners

LITERATURE REVIEW

The literature on optimal teaching (Hativa, 2015) deals with the cognitive aspects of teaching (interest, order, organization and clarity) - as well as the emotional-social-behavioral aspects that are a result of the interpersonal interaction in the teaching and learning process. In addition, teaching dimensions are examined, such as: lecturer availability, students' personal preference for the different types of teaching (frontal, online, off-campus), students' assessment of lecturers' teaching in the course, improvement of study abilities and goal orientation.

During the last decade, and especially in light of the COVID-19 pandemic, more commercial entities have found their way into teaching and learning processes in academia and accelerated the process of privatization within public universities. In these processes, academic institutions receive external services of technological means, lecturers, practitioners, courses and digital learning spaces. The covert partners are becoming common and visible. The outbreak of the COVID-19 crisis, towards the end of the first quarter of 2020, obliged both businesses and state authorities to change their usual traditional conduct and to adopt more adaptive and efficient ways in order to preserve the activities of their communities. Such adaptation measures did not miss the higher education system, which was forced, in a very short time, to find solutions to the challenging reality. In some countries, allegations were made regarding the unpreparedness of the academic institutions for online and/or hybrid teaching, the lack of participation of the student representatives and the non-regulation of the issue with faculty members (training, instruction, definition of teaching conditions, etc.).

A study that examined the development of online teaching in the higher education system in Israel (Almog and Almog, 2020) concludes that the development of online teaching in academic institutions is a result of needs, constraints and opportunities that arise in the free market related to higher education and is not the result of

an orderly policy. It was also found that the emergence of different stages in teaching patterns (the willingness of the various higher education institutions to promote online teaching projects) was mainly motivated by grants and financial support from the Israeli Commission for Higher Education. Moreover, Almog and Almog's (2020) study, examining the online teaching revolution in the higher education system in Israel, states that not only was this revolution forced on institutions of higher education, but that those institutions deliberately delayed its emergence for various reasons until succumbing to the COVID-19 crises.

The skills given to students during their academic studying are not directly measurable quantitatively and certainly not commercially. It is not the culture of efficiency that has led to significant discoveries in the world of science. There is no way to measure quantitatively how much a person who has acquired analytical judgment and criticism skills, the ability to articulate his/her views in a sharp, logical and flexible way, is worth. It is also not possible to directly assess with quantitative tools the benefits that society derives from active citizens who are aware of what is happening around them and who are able to influence it. Only education, particularly higher education, can enable all of these. Education is a clear means of improving social and economic status, and in the long run, it is also the most worthwhile economic investment at the public level.

In the name of "streamlining", academic institutes let the commercialization principle replace the perception that sees the teaching and learning experience in academia as an essential infrastructure for society and the economy. The culture of immediate satisfaction of customers' desires, providing budgets while demanding products immediately, without a pedagogical systemic understanding of the process of knowledge production and the cultural dimension of education, took over higher education.

The goals of any future teaching and learning reform in academia should be measured in the quality of its programs and its accessibility to the entire population, and not in its "efficiency" for generating immediate financial profits or for budgetary balance. The commercialization of teaching and learning in higher education may serve the "fashion" of outputs, values of innovation and immediacy, but the price the society will pay in the future is extremely expensive.

Academic "capitalism"

The higher education system, consisting of various educational institutions, is another aspect of human social existence. From the sociological aspect, higher education processes are part of the broader social context, which is also reflected in the academic aspect. An examination of economic, political, social, constitutional and demographic

processes makes it possible to see the changes that have taken place in the education system as part of sociological trends that drain into the walls of institutions of higher education.

From an economic point of view, the expansion of higher education is a product of the exchange economy that later became the capitalist economy (Huang *et al.*, 2000). According to this economic ideology, changes in the nature of the economy have led to a redefinition of the individual who has become a potential producer, and a taxpayer to the state, and in return, the state is responsible for providing the tools and authority to conduct these productive activities. Education, from this point of view, is a factor that increases the productivity of the individual and also the indirect profit of the state. This view sees the educated person as a human capital while linking the level of education to monetary reward and welfare (Amaral and Magalhaes, 2004).

The view of the education system as an economic instrument is not new and underlies the establishment of modern universities (Scott, 1995). Although the phenomenon is more pronounced in the 21st century, it has its roots in the late 19th century, which symbolized the rise of capitalism and the shift to thinking in terms of profit and loss (Scott, 2004). For years, research institutions have been governed by self-governing policies and were kept from external economic policies. However, over time the capitalist approach has penetrated academic institutions, and considerations of profit, entrepreneurial investment, patent writing, industry collaboration and managerial efficiency have become central (Hoffman, 2011). Similarly, DePietro (2020) notes the change that has taken place in department names, the introduction of new areas of knowledge related to the global market, the study of the culture of additional markets and more. In addition, perceptual changes and the view of higher education as a means of economic growth and industrial development symbolized the paradigm shift that created pressure on universities in terms of product satisfaction. If, in the past, academia was isolated from the business world, and was on the fringes of the social world, then in the 20th century its role changed significantly. Suddenly, academia was required to train skilled people, produce applied research and play an important part in the advancement of a nation. As a result, the academy had to move to prepare citizens for life in an advanced industrial society and shift the educational emphasis from shaping the student's character and world to transferring certain skills and vocational training and defining goals and objectives that are expected from graduates in terms of academic "outputs" to be produced (Yadgar, 2007). Moreover, academia was required to address new and weaker populations (DePietro, 2020).

Academic capitalism posed various challenges for universities, including the recruitment of academics with training in commercial activities, and the preference for profitable academic research (Hoffman, 2011).

DePietro (2020) adds and notes the need for universities to find the balance between the situation in the past, where there was full government support, and the current situation where there is a need for openness and creativity in order to locate economic security. The economic changes that occurred mainly due to the change in the perception of academia as a capitalist institution, were only some of the other changes that took place including socio-political, constitutional and demographic changes, which led to the global growth of higher education (Levy and Eckhaus, 2020).

Commercialization, technologies and academic teaching

In recent years, more and more universities and colleges have been integrating online learning into teaching (excluding the Open Universities which, by definition, are based on online learning). Also, online learning is relevant for students who combine work with studies, those who need flexibility in school hours and in reducing the need to get to the university campus. The universities, from their perspective, use online learning as a tool for attracting more students.

Studies indicate that technology does not change learning, it only serves as a means (Wadmani, 2017, 2018). In a critical article called "Media will never influence learning," Clark (1994) writes that the factors that influence the perception of learning, in general, are not the technological tools but the teaching methods. On the other hand, research conducted at the Technion – Israel Institute of Technology, shows that students who studied at a distance had more positive attitudes toward learning in an asynchronous framework (online content with pre-recorded lectures) compared with students who studied with a face-to-face approach. They believed that distance learning in their free time may contribute to students' advancement in learning skills (Barak *et al.*, 2012). It was further found that distance learning students expressed more positive attitudes in their sense of self-efficacy. That is, to be successful in distance learning, students need to believe in their ability to manage the learning process, mobilize motivation and cognitive resources, and perform the actions necessary to succeed in the course (Barak *et al.*, 2012).

Researchers further suggest that learning is effective when addressing many students who need a supportive human framework and direct contact with the lecturer. On the subject of distance learning, the researchers indicate the learning environment as a learner-focused environment, with knowledge being transferred directly from the lecturer to the student, as opposed to frontal instruction in which the teacher constitutes the bulk of the learner's environment. In distance learning, the learner is perceived as an independent active learner with the right to choose and freedom to decide on the learning process.

With the ability to manage the learning time comes freedom, motivation, self-efficacy, self-belief and ability, and high self-control so he/she can function effectively and deal with the difficulties of technology (Wadmani, 2017, 2018; Wagner and McCombs, 1995).

The literature also indicates that there are problems that dampen the learner's capabilities in the virtual environment (Cohen, 1999, Phelps, 2018). One of the main problems stems from the lack of a social framework that characterizes the distance learning process. Some learners do not tend to learn individually, and distance learning without a social framework may be a blocking chore for them (Cohen and Davidovitch, 2020). In addition, the consequences of the closure of academic institutions and the transition to online learning make it difficult for learners and their families, especially those from lower socio-economic backgrounds. For example, there is a fear of disruption to the study sequence, disconnection from studies and a lack of adequate infrastructure and study space - all of which may create cracks in equal opportunities among students (Weisblai, 2020).

The challenges in moving to online learning in general, and during the crisis in particular

In emergency times, such as during the COVID-19 crisis, the use of digital learning allows learners to maintain learning continuity and reduce disruption to their learning routine, along with providing an emotional response and creating a supportive social-educational framework (Altbach *et al.*, 2020). At the same time, online learning in general, and in crisis times in particular, poses opportunities and challenges to change perceptions in teaching and learning, and to address in depth the following aspects:

1. Create a frame in situations where time and place are "flexible" - students may turn the digital option into a lack of commitment, into a flexibility that has freedom from a mandatory learning environment (Benade, 2017).
2. Time management and learning - students are required to have time management skills and take personal responsibility for learning. Studies show that the ability to manage the learning and requirements of the courses in a flexible environment is the key to success in learning wherever it is, especially in digital learning, which allows for more opportunities in expanding time and place (Hershkovitz and Kaberman, 2009; Allen and Seaman, 2007).
3. Change and adaptation - the transition from traditional learning to digital learning presents a completely different learning experience for the students and the lecturers. This transition can create resistance to changes. The transition does not allow both students and lecturers to easily adapt to the online learning environment and requires time to adapt and move on to a different kind of pedagogy

(Weisblai, 2020).

4. Lack of digital literacy - although most students are experienced in using technological means, not all of them are digitally literate. That is, students and lecturers must have the knowledge and ability to find, collect, evaluate, judge, understand and examine information using digital technology (Berger Tykoczynski *et al.*, 2020; Bates and Khasawneh, 2007; Palloff and Pratt, 2007).

5. Technology operation, creating a new learning space - distance learning must consider students who do not have access to the Internet and other means that are required for online distance learning (Weisblai, 2020; Phelps, 2018).

6. Lecturer skills – some lecturers lack the pedagogical skills necessary for the effective and efficient use of online technologies (Palloff and Pratt, 2007).

7. Equality and social isolation - one of the main challenges in the context of online learning during the crisis is the equality of opportunity among learners. Among the actions taken by different countries in this context: is the distribution or lending of end devices to needy students, offering Internet packages at discounted prices, providing the opportunity to receive printed learning materials, and more. UNESCO also emphasizes that school isolation and closure exacerbate the gaps and inequalities that exist in the education system and that students, especially students from disadvantaged populations, are particularly vulnerable to the effects of the crisis in addition to increased learning opportunities.

8. Motivation, willpower and self-demand - self-motivation is an essential requirement in learning in general, and online learning in particular. However, many learners who study online are found to be unmotivated (Cohen and Davidovitch, 2020). It can be seen that many students, after enrolling in distance learning courses, are left behind and do not progress during the course and give up on themselves (Song, Singleton, Hill and Koh, 2004). It is therefore important that in planning any distance learning course, learners should be provided with constant encouragement and reinforcements in order to continuously and consistently raise their motivation (Salmon, 2019).

Place of the private sector in teaching and academic learning

In the COVID-19 year, a large number of companies and organizations around the world have implemented digital learning. Professional reviews in the field have shown that digital course productions strengthen branding, improve professional training and increase the profit of private companies. The business companies accompany their clients from the strategy stage, through the methodological and creative stage, to the production and launch of the courses.

The purpose of the present study is to examine off-

campus learning experiences, which are an addition to the on-campus learning experience about two and a half years after the COVID-19 pandemic erupted. Students off-campus learning experience was defined as a learning experience that complements the frontal learning experience. The study includes a survey of the attitudes of students attending an engineering school in an Israeli university and an analysis of data from a private company that provides off-campus learning services.

METHODOLOGY

Models for optimal teaching

A research questionnaire was developed based on the theory and the cognitive-emotional model of Hativa (2015) for optimal teaching. According to this theory, a good teacher has a teaching ability that consists of two dimensions: one is the cognitive-thinking dimension which consists of a good ability to organize the course and lessons and utilize the time for learning, presenting clear explanations of the learning material, and maintaining students' concentration and involvement in the lesson. The second is the effective-emotional learning dimension which consists of the teacher's ability to show respect for students, empathy for their difficulties, care for their success and provide assistance for it. Additional areas examined in the study were designed according to the model of Cohen and Davidovitch (2020) which considers the feasibility and improvement of the student's learning abilities in online teaching, as well as the personal preference for online learning among students and lecturers.

Research method

As mentioned, the study is a quantitative study based on a survey of attitudes conducted among students, in a case study of a university in Israel. We examined the dimensions of online teaching, based on the theory and model of Hativa (2015) discussed above. In addition, we analyzed the statements that express students' perceptions of online teaching.

Following the off-campus learning experience, students were asked to mark 1 'do not agree at all' to 5 'strongly agree' on the following areas:

- Improving teaching - interest
- Improving teaching - order, organization and clarity
- Interpersonal interaction
- Lecturer availability
- Personal preference
- Lecturer evaluation
- Improving learning abilities (performing tasks, focusing and concentrating, etc).

Table 1. General questionnaire results.

	Mean	SD	Reliability (Alpha Kronbach)
Improving learning abilities	3.84	0.66	$\alpha = 0.83$
Lecturer availability	3.66	1.19	$\alpha = 0.89$
Improving teaching-interest	3.74	0.96	$\alpha = 0.85$
Improving teaching order organization and clarity	4.28	0.84	$\alpha = 0.89$
Resource saving	3.47	1.07	$\alpha = 0.64$
Interpersonal interaction	2.75	1.08	$\alpha = 0.73$
Personal evaluation of a student	3.47	0.64	$\alpha = 0.74$
Lecturer evaluation	3.08	0.90	$\alpha = 0.63$
Collaborations in WhatsApp groups	3.86	0.93	$\alpha = 0.78$
Targeted orientation	4.43	0.48	$\alpha = 0.79$
Active participation in off-campus learning	3.75	0.93	$\alpha = 0.69$

Table 2. Students' personal and academic background.

Field of study (%) N	Electrical Engineering	17.7%
	Chemical Engineering	6.2%
	Civil Engineering	39.8%
	Mechanical Engineering and Mechatronics	3.5%
	Industrial Engineering	32.7%
	Total	95.8%
Year of study (%) N	First	23%
	Second	35.4%
	Third and above	41.6%
	Total	95.8%
Employment status (%) N	Not working	42.9%
	Working	57.1%
	Total	100%
Marital status (%) N	Single	68%
	Married	32%
	Total	100%
Economic status (%) N	High	8.0%
	Medium	69.6%
	Low	22.3%
	Total	99.9%

• Targeted orientation

students responded to the questionnaire.

RESULTS

General results

Table 1 provides general details on the questionnaire results in terms of the topics listed above.

Table 2 provides information about the student's personal and academic background. 118 engineering

Preference for off-campus teaching over on-campus teaching

Examination of the degree of preference of students for off-campus learning indicates a high preference for off-campus studies: 66.9% of student respondents expressed a high willingness to study off-campus, while 33.1% expressed a moderate to low level of preference as shown

Table 3. Preference for off-campus learning over on-campus learning.

	The level of preference				Average	Standard deviation
	Low	Medium	High	Total		
Students (%)	17%	16.1%	66.9%	100%	3.88	1.31

Table 4. Preference for off-campus teaching over online teaching according to the course.

The rate of expressing a high willingness to study in off-campus teaching according to the course theme					
	Mathematics course	Physics course	Programming courses	Tutting	Other courses
Percent	84.7%	62.7%	82.2%	72.0%	73.7%

Table 5. Perception of the benefits of off-campus teaching among students.

Perceived benefits	Low (%)	Medium (%)	High (%)
Resource savings	17.8	24.6	57.6
Interpersonal interaction	43.2	30.5	26.3
Improving off-campus teaching learning capabilities	4.2	22.0	73.7
Lecturer availability	16.9	22.9	60.2
Improving teaching - order of organization and clarity	3.4	11.9	84.7
Improving teaching - interest	12.7	23.7	63.6

in Table 3.

Preference for online teaching over off-campus teaching

Examination of students' preference for online learning indicates that the preference for online learning over off-campus learning is similar in trend to the preference for off-campus learning over on-campus learning: 53.4% of students prefer online teaching over off-campus teaching while 46.6% of students prefer off-campus teaching over online teaching.

Preference: Online teaching, off-campus teaching and frontal teaching

The highest percentage of students prefer off-campus learning (about 67%). A significant but lower percentage expressed a preference for online studies (about 55%), and about 30% expressed a preference for on-campus studies.

Preference for off-campus teaching over online teaching according to the course

The highest preference rates for math courses were 84.7%. The preference for programming courses was also found to be high compared to other courses - 82.2% of courses as shown in Table 4.

Preference for the type of teaching according to student characteristics

No significant differences were found in the degree of preference for the type of teaching according to personal or academic characteristics (academic department, pedagogic year, employment status, marital status, economic status).

Perception of off-campus teaching - open-ended questions

Students' perceptions about the benefits of off-campus teaching that is an addition to on-campus learning indicate that there is a degree of agreement regarding four perceptions of off-campus teaching that are unrelated to the teaching process itself (Table 5).

More than half of the students refer to the quality of teaching (regardless of frontal or online teaching), that is, the lecturer is not clear:

"Sometimes the explanations in the lesson are not clear enough"

"Lecturers who know the material very well, but are not good at teaching or do not invest in the course at all ..."

Some students comment on the availability on the part of the lecturer.

"A lecturer who just wants to get through the material so he/she is in a hurry and does not explain..."

Table 6. Difficulties on campus when compared with off-campus learning.

Difficulties	%
Poor teaching quality	55.9
Ineffective learning during the lecture	19.5
Lack of depth in the material studied	11.9
Lecture Disorders (Density Noise)	19.5
Lack of flexibility in the teaching method	14.4
Adapted learning tests	11
Unadjusted learning pace	7.6
Campus learning	7.6
Lack of materials (written materials, recordings)	6.8
No difficulties	1.7

Table 7. Correlation factors between the various characteristics.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Preference for off-campus teaching															
2. Preference for teaching on campus	-.72 ***														
3. Preference for online teaching	.11	-.17													
4. Improving learning abilities	.73 ***	-.54 ***	.18												
5. Lecturer availability	.41 ***	-.23 *	-.05	.46 ***											
6. Improving teaching interest	.61 ***	-.45 ***	-.00	.63 ***	.60 ***										
7. Improving teaching order organization and clarity	.55 ***	-.38 ***	-.03	.50 ***	.47 ***	.67 ***									
8. Resource savings	.49 ***	-.47 ***	.14	.49 ***	.13	.29 ***	.29 ***								
9. Interpersonal interaction	.42 ***	-.30 ***	.21 *	.40 ***	.40 ***	.38 ***	.20 *	.03							
10. My personal esteem as a student	-.14	.27 **	.05	-.10	.13	-.01	.07	-.09	.09						
11. Lecturer evaluation	-.40 ***	.25 **	.14	-.31 ***	-.32 ***	-.41 ***	-.49 ***	-.15	-.14	-.01					
12. Collaborations in the WhatsApp group of courses	.30 ***	-.19 *	.10	.26 **	.21 *	.31 ***	.24 *	.16	.18	.11	-.01				
13. Degree of striving for the goal	.06	-.07	.23 *	.18	.18	.21 *	.21 *	.03	.17	.30 **	-.04	.28 **			
14. Active participation in off-campus learning	.49 ***	-.31 ***	.05	.52 ***	.44 ***	.41 ***	.51 ***	.29 ***	.23 *	-.02	-.32 ***	.26 **	.24 *	-.04	.19 *

"Contempt of lecturers, unwillingness to explain again ..."

The major themes regarding learning difficulties on campus, when compared with off-campus

learning, are listed in Table 6. As shown, the major difficulties in on-campus learning as perceived by the students are poor teaching quality which is expressed by ineffective teaching and disorder lectures.

Correlations

Table 7 provides the correlation factors between the various characteristics of teaching and learning involved on and off campus.

Table 8. Correlations between preferences for off-campus and on-campus to the various factors.

	Improving learning abilities	Lecturer availability	Fisher Z
Preference for off-campus teaching	.73 ***	.41 ***	3.61 ***
Preference for teaching on campus	-.54 ***	-.23 *	2.71 **

	Improving learning abilities	Fisher Z
Preference for off-campus teaching	.73 ***	2.90 **
Preference for teaching on campus	-.54 ***	0.70

	Improving learning abilities	Interpersonal interaction	Fisher Z
Preference for off-campus teaching	.73 ***	.42 ***	3.53 ***
Preference for teaching on campus	-.54 ***	-.30 ***	2.16 *

	Preference for teaching Off campus	Preference for teaching on campus	Fisher Z
Lecturer evaluation	-.40 ***	.25 **	4.97 ***

The relationship between preference and off-campus teaching with perceptions of the essence of teaching is stronger compared to the relationship between preference and off-campus teaching with perceptions that are not directly related to the teaching itself (convenience, time-saving) as shown in Table 8.

A negative lecturer assessment was found to be related to a preference for off-campus learning, and a positive lecturer evaluation was less related to a preference for frontal lessons.

The findings indicate that students' preference for off-campus studies is related to the cognitive aspect of teaching:

- Order and organization
- Clarity of instruction
- Interest

The relationship between interest in teaching, and a preference for off-campus studies indicates that interest in off-campus learning increases the likelihood of active participation in off-campus courses, and active participation in the course predicts an increase in preference for off-campus teaching over on-campus teaching.

SUMMARY AND CONCLUSIONS

The research described in this paper examines the effect of the closure of campuses on the learning experience of students in the post-COVID-19 era. The study consists of a structured and semi-structured questionnaire that was distributed among 118 students from the Faculty of Engineering at a university in Israel. The study was conducted shortly after the return of students to the campus, following the long periods of off-campus studies. The main findings are listed below:

- Preference for off-campus teaching is high - more than 60% of students expressed a preference for this type of teaching. About 30% of students expressed a moderate to a low preference for off-campus teaching.
- The preference for off-campus teaching in mathematics and programming courses is the highest.
- Preference for off-campus teaching is mainly related to the essence and quality of teaching (order of organization, clarity, interest, the pace of teaching, adaptability of the material studied to the test) and less related to aspects such as saving resources and time.
- A low lecturer's assessment affects the preference for "part-time studies" much more than the effect of a positive lecturer's assessment on a preference for frontal studies.
- The connection between an interest in teaching and a preference for off-campus teaching is partly explained by the active participation of students in these studies.
- The common themes about the benefits of off-campus teaching that are an addition to on-campus learning are about the way of teaching, that is, that this learning is more accessible and adapted to the pace of learning of the material, as well as about the quality of teaching.

The results of the study show a clear and unambiguous picture: The COVID-19 pandemic revolutionized the learning habits of students. This revolution is very quiet, but very significant and is characterized by a significant involvement of private/commercial entities in the off-campus academic programs. Information about the trends of off-campus courses sheds light not only on the learning habits of students today, but also draws lines on possible future learning trends.

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