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Inconveniences of Studying During a Pandemic – a Case Study

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Niedogodności studiowania w czasie pandemii – studium przypadku

Streszczenie

Wprowadzenie: Niniejsza praca jest próbą zdiagnozowania, w jakim stopniu ograniczenia spowodowane pandemią COVID-19 wpłynęły na zmianę stylu życia studentów Wydziału Wychowania Fizycznego i Zdrowia (AWF Filia w Białej Podlaskiej) i jakie niedogodności utrudniające normalne studiowanie są dla nich najdotkliwsze. **Materiał i metody:** Badaniami objęto studentów tego wydziału, uczestniczących w zajęciach poświęconych technikom decyzyjnym, w ramach przedmiotów związanych z teorią organizacji i zarządzania. Opracowali oni potem w domu odpowiedzi odnośnie do zagadnień występujących w ramach następujących technik: 1) dobowy budżet czasu (Daily Time Budget), 2) burza mózgów (Brainstorming), 3) diagram Ishikawy (Fishbone Diagram), 4) profilowanie Bordy (Borda-Kendall Method). Wyniki opracowano pakietem obliczeniowym „Statistica" (wersja 13.3). Badano istotność różnic międzygrupowych testem χ^2 (kierunki studiów

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oraz kobiety i mężczyźni). **Wyniki:** Stwierdzono istotny wzrost czasu poświęconego na naukę własną, oglądanie Internetu i TV, prace domowe, a także brak zajęć w pomieszczeniach uczelni i ograniczenie kontaktów towarzyskich. Wśród czynników najbardziej utrudniających studiowanie na pierwszym miejscu znalazł się brak zajęć praktycznych, na drugim problemy z Internetem, a na trzecim dodatkowe obowiązki domowe. **Wnioski:** Wśród występujących niedogodności studiów online w okresie pandemii najistotniejsze okazało się ograniczenie – wręcz brak – zajęć praktycznych, który to problem wymaga przemyśleń i systemowego rozwiązania.

Słowa kluczowe: pandemia COVID-19, styl życia, aktywność studentów, diagnoza niedogodności, techniki decyzyjne, studia online.

Abstract

Introduction: The presented work is an attempt at diagnosing how much the restrictions connected with the COVID-19 pandemic have changed the lifestyle of students of the Faculty of Physical Education and Health (the University of Physical Education in Warsaw, the Branch in Biała Podlaska) and which inconveniences hindering normal studying are the most painful for them. **Material and methods:** The study included students of the aforementioned Faculty participating in classes dedicated to decision-making techniques as a part of subjects connected with the theory of organization and management. After those classes they worked out at home their answers referring to issues occurring within the following techniques: 1) the Daily Time Budget, 2) the Brainstorming, 3) the Fishbone Diagram, 4) the Borda-Kendall Method. The results were analysed with the "Statistica" computing package (13.3 version). The significance of intergroup differences (between students of different fields and men and women) was analysed with the χ^2. **Results:** It has been found out that there was a significant increase in the time devoted to self-study, watching the Internet and TV, homework. There were no classes in university premises as well as a decrease in social contacts. Among the factors that made studying more difficult, the lack of practical classes was ranked first, Internet problems second, and additional household chores came third. **Conclusions:** What turned out the most significant among inconveniences of online studies during the pandemic was limitation – or just lack – of practical classes, what is a problem requiring considerations and a systemic solution.

Keywords: pandemic COVID-19, student activity, inconvenience diagnosis, online studies.

1. Introduction

At the beginning of 2020, after several weeks of growing fears in society caused by the disturbing information from the World Health Organization (WHO) about the COVID-19 disease new to humanity, caused by the SARS-CoV-2 coronavirus, Poland also began to introduce, in mid-March of this year, nationwide restrictions. They were supposed to prevent the spread of this disease by reducing interpersonal contacts to the necessary minimum.

Many people were isolated in their homes. Those who could switched to remote work, but the economy began to slow down rapidly. Some industries faced unprecedented difficulties. Distance learning began to be introduced in primary and secondary education. Tertiary education, after the suspension of normal ac-

tivities on March 12th of this year, also had to switch to online learning. But here there are specific problems arising from the essence of studying, because, for example, access to scientific repositories is still limited, not everything can be found on the Internet, and face-to-face contact and discussion with the supervisor cannot be completely replaced by writing e-mails. Practical classes in laboratories, as well as classes in sports facilities in the case of physical education students, have no satisfying substitute. Closed colleges, libraries, canteens and dormitories forced everyone to live in the new reality.

It was all overlaid with problems with the Internet infrastructure. In many places, the range and speed of the Internet turned out to be insufficient for normal communication. The most used online platforms, such as Microsoft Teams, Zoom, AnyDesk and others, often crashed when there were too many remote class participants. It also turned out that the skills in the efficient operation and use of such new technologies are, to put it mildly, inadequate. And this applies not only to the older generation of lecturers but also to many students.

The above-described situations, as well as many other inconveniences, contributed to the change in our current lifestyle and caused a number of social frustrations [1], [3], [5], [6], [7]. The lack of research into which factors affect us the most makes it difficult to formulate appropriate strategic decisions that should be taken by both state authorities and all universities. Of course, such research will probably show up after some time. Here, taking advantage of the fact that in the program of studies at the Faculty of Physical Education and Health (Józef Piłsudski's University of Physical Education in Warsaw, the Branch in Biała Podlaska) – within the subjects related to organization and management – there are conducted classes devoted to decision-making techniques, it was decided to focus their topics on the current student problems. In this case, on inconveniences caused by distance learning during a pandemic.

2. Material and methods

The research was conducted in April and May 2020 at the Faculty of Physical Education and Health (the UPE Branch in Biała Podlaska) among students participating in online classes, who – after they had got acquainted with the theory at lectures and practically studied selected topics during classes – were developing at home their answers concerning issues occurring in the four decision-making techniques just being worked on. The detailed numbers of people studying particular techniques – whose answers were used for the analysis – will be given in the following description. And so:

— the Daily Time Budget) [8], [10], [12], [13] – participated by 88 students;
— the Brainstorming) [9] – participated by 168 students;
— the Fishbone Diagram) [3] – participated by 168 students;

— the Borda-Kendall Method [2], [4] – participated by 240 students.

The responses received from groups studying particular decision-making techniques were entered into the "Statistica" analytical program. The arithmetic means (M), standard deviations (SD) and the structure of individual activities in the daily time budget were calculated. The chi-square (χ^2) test was used to assess the differences in the factors that make it difficult for students to acquire knowledge and skills during distance learning. On the one hand, it allowed to capture statistically significant differences in individual activities between the study of the time budget in 2017 and the study in 2020, during the period of the highest intensity of restrictions caused by the COVID-19 pandemic. On the other hand, the greatest inconveniences caused by the above-mentioned limitations in the study process were diagnosed. Since the aim of the research at this stage was only to diagnose conditions caused by the restrictions, only the differences that should possibly occur in the perception of inconvenience between women (n = 125 people) and men (n = 115 people) and between students of the studies with a significant number of hours of physical activity (physical education and sport, n = 145 people – group 1) and other fields of study (tourism and recreation, physiotherapy and cosmetology, n = 95 people – group 2) were analysed [11].

3. Results

Since the collection of data for this study was carried out in two ways, the results of the analysis of changes in various activities of the researched students (before and during the pandemic) and inconveniences in studying caused by restrictions introduced by the sanitary authorities of the country are presented below separately.

3.1. The students' daily time budget

The subjects spent most of the time during 24-hours sleeping, it was 8 hours and 20 minutes on average. The second activity in the daily time budget, on average daily on weekdays, was watching TV, the Internet and a computer – slightly over 4 hours. Physical activity, taking into account its three forms (training, physical recreation and home exercises), took an average of 1 hour and 58 minutes, and self-study – 1 hour and 44 minutes. The least amount of time on weekdays was spent by students on community service, cultural recreation and traveling by means of transport (Table 1).

Detailed analyses of the change in the structure of time devoted to various activities (before and during the pandemic) will be the subject of a separate publication. Here, however, the following phenomena were noted:

a) a complete lack of classes at all university facilities;
b) a decrease to 39% of the time originally devoted to social events;

c) doubling the time devoted to self-study;
d) a twofold increase in the time devoted to watching TV and the Internet;
e) almost 30% increase in time devoted to housework.

Table 1. Average number of minutes (M), standard deviation (SD) and structure (%) of time spent by the surveyed students on various activities during the day (n = 88)

Activity	M	SD	Structure (%)
University classes	0	—	0.00
Eating meals	70	25	4.86
Personal hygiene	63	22	4.36
Sleep	500	59	34.71
Active forms of traveling	66	64	4.58
Traveling by means of transport	17	22	1.20
Self-study	104	74	7.21
Watching TV, the Internet, computer	244	108	16.92
Social events	41	58	2.83
Cultural recreation	10	23	0.70
Training	47	42	3.27
Physical recreation	37	40	2.57
Physical exercises at home	34	33	2.37
Professional activity	56	122	3.91
Community service	7	24	0.47
Housework	89	48	6.21
Others	55	112	3.83

Source: own study.

3.2. Specification and scale of inconveniences in studying

Having already understood what the students' time budget, and therefore their lifestyle, look like it was decided to take a look at what is the main problem for them related to obtaining the appropriate education at the present stage. Conditions created by sanitary restrictions cause certain inconveniences in gaining knowledge. Recognizing them and then determining their scale are necessary if we are serious about continuing online studies.

After the students had been introduced to the principles of brainstorming and the Fishbone Diagram analysis of the probable causes of a system malfunction, they were asked as a homework to think about what bothers them in such teaching. In accordance with the rules in force during the analysis of the Fishbone Diagram, they were to indicate the inconveniences that bother them in six areas:
A – caused by lecturers;
B – arising from the students themselves;

C – imposed by the specificity of the didactic process;
D – determined by limitations in access to teaching aids;
E – on the side of university administration activities;
F – conditioned by the technological possibilities of the Internet.

Ultimately, responses from 168 students were received. Many of the reported causes and sources of the inconvenience they felt were repeated in different responses. Some had their primary causes in several areas.

Among the reported, often individual cases, there were sometimes quite interesting observations. And so, in particular areas it was noted (these are exemplifying statements):

Ad A: **lecturers** give too much homework to do on one's own; some have problems with computer skills; they are technologically inept; they have poor hardware and software; sometimes they are unprepared to deal with specific topics in this way; they delay answering questions they are asked; they speak too fast and it is difficult to note it down; some of their presentations are weak and often boring.

Ad B: **students** leave the computer during class and it is difficult to control it; they do not participate in classes, but they have a strong justification (e.g. service in the National Territorial Defence Forces); they cannot afford good equipment (often a microphone or a camera is missing); they disturb other participants by not turning off their microphone; they do not sign emails and their names are not included in the address; they are disturbed by additional housework (shopping, cleaning, caring for siblings or sick household members, etc.); some demobilize other students by promoting a policy of writing "copy, paste and send as their own" projects.

Ad C: **the didactic process** is impoverished, because it is impossible to properly implement practical subjects; knowledge transmitted online is usually in a simplified version and the program is not fully implemented; classes are too long when they are received from the screen; active participation in classes is more difficult; most classes are only theory without practical elements; sometimes the dates of different classes overlap, etc.

Ad D: **teaching aids** are not fully available; some of the recommended literature is unavailable, there is no library access, and not everything is on the Internet; IBUK Libra offers a small part of what lecturers recommend; there is no access to sports facilities, laboratories, etc.

Ad E: **the administration** gives imprecise answers; nobody picks up the phone; issued messages do not reach students; instructions are often impossible to comply with; conflicting messages are spread; it is difficult to find the right official because they work shifts; the administration is indifferent (lack of empathy) to the student's life matters; it often acts to create an appearance of action; it does not understand that not everything can be arranged remotely, it happens that nobody knows anything and nobody knows when they will know, etc.

Ad F: **the Internet** – in many parts of the country there is no coverage; connections are disconnected; free platforms have limited capabilities; not everyone has unlimited access to the Internet; platforms admit limited numbers of listeners and reject the rest; sometimes there are problems with getting from the "waiting room" to the lecture; there are also sometimes technical problems with disconnection, etc.

After analysing the reported inconveniences occurring during distance studies, the most frequent ones were selected and placed in the Fishbone Diagram (Fig. 1). There have been placed (after editing) the following phrases:

A: lecturers talk too fast, which makes it impossible to take notes during the class;
B: students often have to deal with household chores during lectures (caring for siblings or sick members of the family, cleaning, etc.);
C: there is no possibility of proper implementation of practical subjects with remote teaching;
D: not everything is on the Internet, IBUK Libra resources are limited, there is no access to the library and sports facilities;
E: the administration shows little empathy in dealing with students' life issues;
F: the Internet freezes during classes because it requires the appropriate quality of hardware, software, signal coverage and users' skills.

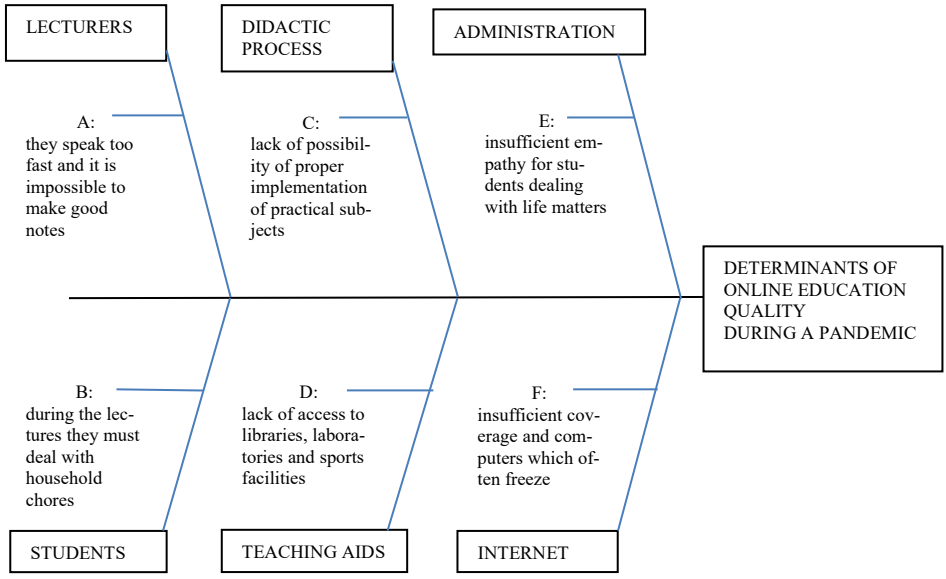

Fig. 1. Fishbone Diagram of inconveniences of online studying caused by sanitary restrictions in connection with the COVID-19 pandemic

Source: own study.

In the next class, after studying the principles of Borda-Kendall profiling, the students again got a homework assignment, in which they had to arrange the above-mentioned factors (using only the letters A; B; C; D; E; F) from the one they felt to be the most inconvenient, through the slightly less important one, to the one that seemed the least important in the proposed set. 240 individual profiles were received. Due to the order in the profile, a given factor received 6 points for placing it on the first place, and 5 points on the second place, etc., until the last place, for which 1 point was allocated. The collective results, containing the summary lists of points received in the studied group of students by the particular factors subject to profiling, are presented in Table 2.

Table 2. Sum of ranks of particular learning online inconveniences (n = 240)

Factor	Rank						Σ	MR*
	6	5	4	3	2	1		
A	36	130	104	135	156	59	620	2.58
B	270	290	224	108	62	14	968	4.03
C	468	255	136	123	48	12	1042	4.34
D	282	200	224	144	58	20	928	3.87
E	78	55	68	78	116	115	510	2.13
F	306	270	204	132	40	20	972	4.05

* Mean rank (MR) – the quotient of the sum of ranks divided by the number of the researched

Source: own study.

It turned out that the factor which hindered acquisition of knowledge and skills by distance learning students the most was a limited possibility of proper implementation of practical subjects (C). This option was indicated by almost every third respondent (32.50%) in the first place, i.e. as being the biggest inconvenience. It also turned out that, according to the students, other important disadvantages are technical problems, e.g. with the Internet (F), and the fact that being at home they have additional duties that limit the time for studying (B). The second and the third of the mentioned factors obtained a similar sum of ranks. Factor F (21.25%) was indicated in the first place more often than factor B (18.75%). The smallest inconveniences for students when studying online were: implementation of various matters by the university administration (E), the way of transferring knowledge by lecturers and the quality of communication (A). From among all options, option E was considered the least inconvenient for learning by almost every second respondent (47.92%).

Statistical analyses were performed with the use of the "Statistica" calculation package (version 13.3). The χ^2 test was used to test the significance of intergroup differences. The results were considered statistically significant for $p < 0.05$.

While analysing the obtained quantitative data it was decided to check whether men and women had different preferences regarding the factors hindering remote study. The results showed that technical problems related to the Internet constituted difficulties in remote study significantly more often for the women than for the men ($\chi^2 = 7.15$, df = 1, $p < 0.01$). The other factors did not differ significantly between the male and the female subjects (Table 3).

Table 3. Differentiation of remote learning inconveniences depending on the respondents' sex

Factor	MR*		χ^2	p
	F (n = 125)	M (n = 115)		
A	2.55	2.62	0.17	0.68
B	4.02	4.04	0.02	0.90
C	4.36	4.32	0.07	0.79
D	3.78	3.97	1.56	0.21
E	2.05	2.21	1.13	0.29
F	4.24	3.84	7.15	0.01

* Mean rank (MR) – the quotient of the sum of ranks divided by the number of the researched

Source: own study.

Table 4. Differentiation of remote learning inconveniences depending on the field of study

Factor	MR*		χ^2	p
	Group 1 (n = 145)	Group 2 (n = 95)		
A	2.66	2.47	1.29	0.26
B	4.03	4.03	0.00	0.98
C	4.19	4.58	7.38	0.01
D	4.06	3.57	10.17	0.001
E	2.19	2.03	1.00	0.32
F	3.88	4.32	8.44	0.004

* Mean rank (MR) – the quotient of the sum of ranks divided by the number of the researched

Source: own study.

A statistical comparison of two groups with a different number of practical classes revealed that students studying in the fields where there are more practical classes preparing for professional activity (group 2 – tourism and recreation, physiotherapy, cosmetology) significantly more often perceived the inconvenience related to the inability to implement such subjects properly ($\chi^2 = 7.38$, df = 1, $p < 0.01$), as well as technical problems related to equipment, operation

and internet communication ($\chi^2 = 8.44$, df = 1, $p < 0.004$), as more important than the people from the group 1 – PE and sports, in which students have more subjects connected with physical activity. It turned out that difficult access to information, i.e. the fact that not everything they need to learn is available on the Internet or IBUK Libra, and they do not have access to traditional libraries, is a factor hindering studying which was significantly more important for the group 1 than the group 2 ($\chi^2 = 10.17$, df = 1, $p < 0.001$). The remaining factors constituting inconvenience in studying did not differ in both groups (Table 4).

4. Conclusions

The study is a diagnostic one and was conducted on a sample limited to one faculty of a given university. The results are therefore not a basis for generalizations. Its advantage seems to be its timeliness, because it was conducted in the period immediately after the introduction of sanitary restrictions caused by the COVID-19 pandemic. They clearly show that the greatest disadvantage of online studies for this type of fields of studies is a difficult access to practical classes. While in the case of troubles with the Internet, the problem seems relatively easy to solve, the problem of the lack of practical training requires a systemic solution.

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