

Oktatás - Informatika - Pedagógia
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**LESSONS LEARNT FROM A SURVEY DURING
COVID-19 AT THE FACULTY OF LAW
ENFORCEMENT, LUPS**

- THE RESULTS OF A QUANTITATIVE RESEARCH -

Domestic research results:

Traditional and online learning preferences in higher education – *the challenges of COVID pandemic* (Hargitai Dávid, Sasné Grósz Annamária, Veress Zoltán – University of Pannonia)



- Primary research: info-communication technology used by students PRIOR to the pandemic
Instrument: online survey (active student population at the University of Pannonia, 69,4%, net sample number: 1181) Time period: 4 days
- Methods: statistical (Levene-test, t-test, Khi)
- Results: H1: no difference according to gender H2: more Internet use at bachelor level H2: women prefer paper handouts and books H3: Internet: less problem at master level
- Suggestion: upload and share tasks on a weekly basis (not more often) supplementary learning aids at bachelor level

Research by the National Hungarian Student Government



- April and August 2020, nationwide survey
- 12000 valid answers, 279 faculties of 22 universities, bachelor and master level
- 42% of contact seminars could be replaceable by online seminars
- Working besides learning – preference to introduce partial online teaching (40% permanently occupied)
- Satisfaction with distant learning: 66%
- 1 credit=30 working hours (Higher Education Act) – should be student activity-centered, the high number of contact lessons decrease time for research (33 hours: studying, only 10 hrs for individual studying time)
- suggestions: decrease the number of contact lessons from 2021, enhance ICT competence

Our hybrid research



subject matter: teaching and learning experiences at the FLE, LUPS

objective: to examine

- the effectiveness of online teaching and learning for the university citizens at FLE
- factors hindering online teaching and learning
- attitudes towards online working format
- similarities and differences of difficulties and obstacles among students and professors
- conclusive statements and experiences for future higher educational practices

sample: 216 students (full population at 1st and 2nd year at bachelor level, correspondence students) 72 professors

method: hybrid online survey (5-grade Likert scale, + open questions)

instrument: Google survey questionnaire

Description of the research



Hypotheses:

- H1: online teaching and learning will result in more drawbacks than benefits
- H2: technical obstacles and virtual space (Internet, microphone, speakers, Teams, wi-fi connection) will slow down teaching and decrease learning capacity
- H3: online learning will result in health decrease
- H4: ESP teaching effectiveness will deteriorate

Phases of research:

- Indulging in domestic and international relevant researches regarding online learning attitudes and experiences
- Preparation of hybrid questionnaires, forwarding them to university citizens by the help of our colleagues at the Department of Foreign Languages for Specific Purposes
- Assessment of surveys, data process of pie charts and categorization and synthesis of answers to open questions
- Summary of positive and negative answers
- Drawing consequences, future perspectives, recommendations for best practices

The synthesis of the students' answers

Positive categories based on 216 answers



- **Time saving/no need for travelling:** more spare time, saving time, better time management, individual schedule, more preparation time. **68**
- **Comfort/flexibility:** being able to get up later, close proximity, more relaxation, less appointments, less tiring, no need to get up from bed, less burden, more freedom. **57**
- **Cost efficiency:** saving general costs, free of travel, no need to commute, no need to travel from the countryside. **4**
- **Spare time activities:** hobby, sports, football, more time to work out. **6**
- **Social surroundings/family:** family, friends, home environment. **12**
- **Learning/cognitive abilities/ICT:** individual studying, learning material process at my own pace, less note-taking, I can learn own my own, relaxed preparation. **9**
- **Employment:** undertaking another job, extra money. **3**
- **Safety:** fear from Covid, wearing a mask, safety, decrease of infection, less interaction, no need to be with more people in one room, preserving health. **6**
- **More activities simultaneously:** cooking, more other activities, activities can be harmonized. **7**
- **It came with benefits only:** **2**

The synthesis of students' answers

disadvantages based on 216 students' answers



- **Lack of interaction:** harder contra-communication, less students are active, mates show less interaction, there is not personal contact with professors, some lessons are less active. **46**
- **Demotivation:** it is harder for me to persuade myself to start studying, I am less motivated, lack of motivation, it is harder for me to sit down to study, it is easier to be lazy, I am not motivated. **15**
- **Lack of community/isolation:** there is a lack of community, there is no personal contact, there is a lack of community life, less contact with friends, lack of personal contact. **32**
- **Deconcentration:** it is harder to focus, difficult to concentrate, I cannot fully focus on the seminars, something always disrupts my attention, there are a lot of disturbing factors at home, it is harder to pay attention. **18**
- **Change of mood:** it affected my mood negatively. **1**
- **Lack of exercise:** I had to sit a lot in front of the screen. **2**
- **Lack of contact teaching:** I miss contact teaching. **4**
- **Health deterioration:** frequent headaches, my eyesight worsened. **3**

The synthesis of students' answers

Disadvantages based on 216 students' answers



- **No drawback:** I did not experience any disadvantage, we received the material and we could learn, there was no disadvantage, I could not name one. **12**
- **Professors, tutors:** Our professors believe we have more time now for everything. It is harder for the teacher to explain, demonstrate things and answer certain questions. **4**
- **Technology:** The Internet connection is cut down, it fluctuates, we have Internet problems, we have technical problems. Insufficient Internet connection causes a lot of annoyance and that makes it impossible to listen to the presenter. **7**
- **Education, training:** practical seminars are difficult to be held, very limited time for tests, too tight deadlines for tests, lessons are not direct, online quality does not match up to offline quality, no possibility to consult with the professors, lack of presence. **11**
- **Learning:** it is harder to learn, it is more difficult to follow the seminars, it is harder to prepare, learning is not direct, learning time mingles in with spare time, being overburdened, it is harder to prepare for the seminars, it is difficult to study, I have become lazier, contact lessons make it easier to understand a few subjects, we gain superficial knowledge only, my time management has become worse. **9**
- **Obstacles:** **4**
- **Inefficiency:** **4**
- **Spare time and studying time was not separated:** **1**
- **Being overburdened:** **2**

The synthesis of students' answers

What hindered your concentration mostly?



- **Internet:** it was fluctuating, signal disappeared, no connectivity, Internet connection, for 1-2 days, connection disappeared for 10-20 minutes, weak, because of poor internet connection, I could not take the online test, the Internet provision halted. **63**
- **Nothing:** nothing hindered me, there was no such thing, I wasn't held back by anything. **6**
- **Environment:** I think everything distracts your attention at home, I am preoccupied with everyday routines, for example housework, it is not like when we only have to focus on a presentation in a classroom, daily things, for example the courier came during the seminar, so it is hard to keep up concentration, the cat distracted me. **30**
- **Technical issues:**(microphone, Teams, laptop): power outage, we did not understand each other, a few programs were running simultaneously, the performance of the computer, wi-fi, technical problems occurred sooner with tutors, for example the video froze in the middle of a lecture, the quality of lectures. **28**
- **The maintenance of attention: 1**

The synthesis of students' answers

How did online learning affect your mood?



- **Demotivation:** apathy, being closed in, it affected my mood. I became demotivated in connection with school. A bit of demotivation, I am really depressed by the lack of social life. **38**
- **Becoming lazy:** convenience, more of doing nothing, the lack of physical activity, becoming lazy, I have become so much lazier. **25**
- **Flexibility/more activities:** Flexibility was characteristic, because I had more time at home, for example I did not have to get up early, I could adjust to my new schedule, flexibility. **20**
- **More spare time:** working out, I can manage my time much better, I have more free time, I could spend more time on physical activities, I could devote more time to my family, and friends, I had more time for learning, more working out, I was working out or cooking during lectures. **33**
- **Bad mood/apathy, stress:** I am saddened, apathy. **7**
- **Positivity/challenge/calmness:** it definitely affected me positively, I used my time here at home as much as I could, I do sports actively, I spend my spare time creatively: I started the renovation of my apartment, I do gardenwork. Seminars are more interesting, and I feel I am more productive **7**

The synthesis of student answers

How did distant learning affect your mood?



- **It did not affect me:** it did not affect me negatively, it did not influence my mood, it affected my way of life, I do sports every day to keep a good balance. **3**
- **Boredom:** after a while I got bored with being at home, seminars were more boring, there was no variety, I am bored, it is dull sitting in my room all day, monotony, it is monotonous. **14**
- **Motivation:** I became more creative, it is a challenge, I had more inclination to deal with other things, I retained motivation, I became a lot more balanced and consistent, I had more time for activities during the breaks **1**
- **Family:** I can spend more time with my family and my partner, and I am happy about this, it is positive that I can be with my family more. **3**
- **Negatively/claustrophobia/multitasking:** it is negative that I can't get to see my friends, I am not motivated and it is harder to understand the material, we are completely left own our own, due to lockdown I could not do the kinds of sport I wanted to, I do miss social life and my friends. **8**
- **Versatility:** I could characterize it as versatile and variable, there were some days when I was very creative and active, then on other days I was lazier and had less energy. It changed, sometimes I was down, some days I was more active than normally. **2**
- **Learning difficulties:** **1**
- **Sedentary lifestyle:** **4**

The synthesis of students' answers

What kept your from being more interactive?



- **Nothing:** nothing held me back, there was no such thing, nothing actually, I did not experience that. Nothing held me back from being more interactive because my tutor paid attention so everybody was active during ESP lessons. **16**
- **Silence:** I do not enjoy speaking in the first place, which is not a benefit at a languages class. **1**
- **Lack of knowledge/uncertainty:** I did not know the answer, I could not phrase my reply, uncertainty, knowledge. I was not sure of my answer, insecure. **12**
- **Demotivation:** demotivation, feeling of being tired, I did not feel as motivated as during a contact seminar, where I can have an eye contact with my tutor signalling, that I want to say something. **3**
- **Time limits:** lack of time **1**
- **Technology/microphone/Internet:** I generally use my phone and it is hard to open a coursebook file at the same time, If more than one person would like to speak, the system jumbles and I cannot see how many people would like to talk, technical reasons, bad Internet connection **20**
- **Environment:** Background noise, it is chaotic, when there are 145 students on the lecture, it is hard to do anything (not on language seminars). The lack of personal contact. Online, mostly one person can speak at the same time and other students have preceded me. Some other students preceded me. I was waiting for the others. I trusted others so that I would not be the only one speaking. External factors. I can't see my mates' reactions. I had a fear that while I was turning on my microphone, I might interrupt someone else. **11**
- **Deconcentration:** lack of concentration, lack of attention **2**
- **Lack of reactions:** **6**

The synthesis of students' answers

The summarized negative and positive answers



- **Advantages:** Positive answers **188**
- **Disadvantages:** Negative answers **143**
- **Obstacles:** **48**
- **Mood:** positive **96**, negative **105**, neutral **4**
- **The direction of enthusiasm & lack of interaction:**
negative **57**, neutral **17**

- **Total positive answers:** **284**
- **Total negative answers:** **353**

The synthesis of the professors' answers

The advantages based on 72 answers



- **Time saving/no need for travelling:** Saving time by not going to work, there is no travel time, saving much time by not travelling to seminars, time management, I could present the seminar from home. **43**
- **Effectiveness/flexibility/comfort/being at home:** More effective work, fast joining, easier testing, better management, I could organize private life and my job better. Flexibility, better time management. **38**
- **Safety:** epidemic exempt environment, medical safety, the possible treatment of the pandemic, it provides greater safety, there wasn't any personal interaction. **8**
- **Family:** being at home, family. **2**
- **Socialization:** Being in touch with colleagues living in diverse towns. **1**
- **ICT/technique:** The application of modern techniques and computer based models, I have used the Moodle system more than usual, I have learnt much about the digital technologies, ICT enriched user-experience. **11**
- **Creativity/Professional development/improvement of learning material:** Improvement of learning materials, additional educational materials besides offline education, familiarisation with the IT solutions attached to the online seminars, revised presentations, professional development. **6**
- **No advantage:** There wasn't any advantage. Nothing. I didn't feel any advantage. There wasn't any advantage. I cannot name any advantage. **5**

The synthesis of the professors' answers

Disadvantages



- **Motivation:** I could motivate the students less, only few people could be activated, it's more difficult to draw attention, or motivate, the lack of incentive effects. **17**
- **Feedback/interaction:** lack of feedback, personal contact, and interaction. There is no personal contact with the students, there was hardly any feedback, difficult discourse, lack of interaction. **34**
- **Control/lack of evaluation:** The interest cannot be controlled, cannot be checked, whether the student was really present, the diminishing and the complexity of control **10**
- **Lack of movement/damaged health:** much sitting work, sedentary lifestyle, stiff limbs, sore neck, lack of blood circulation. **8**
- **Difficulties in the education and the administration/technique:** issuing more complex tasks, more difficult checking and informing about the tests or exams, the commingling of private life and work. The deficiencies of the knowledge of techniques diminished the quantity of the teaching material. **23**
- **Isolation/ lack of personal connection/contact:** I couldn't go to my workplace, therefore, I saw my colleagues less, isolation. The loss of the personal contact and the lack of personal interaction and the atmosphere of the working place. **42**
- **Convenience/sluggishness:** It enervates me. **1**
- **Commingling of private life and work/24 hour work:** **6**
- **The missing of the campus and the environment of the university:** **7**
- **Additional work:** **1**
- **Hiding:** **9**

The synthesis of the colleagues' answers

Factors, which obstruct the education



- **Internet:** Maintenance of the internet, it hindered, the signal strength changed, occasionally the bandwidth diminished or wasn't appropriate, there were 4 of us within the online education, which the internet could not tolerate. **25**
- **Failure of the laptop:** poor performance of the laptop given by the university, the laptop is slow, bad quality sound, therefore I used my own laptop. **6**
- **Microphone/Camera/Sound:** the lack of microphone, microphone sound problems, beeps in the microphone, the bad quality of the microphone, lack of camera. Occasionally it happened that the sound contact ceased for half a minute. **17**
- **Microsoft Teams/Moodle:** Access to the system, the simultaneous work of the Teams and the Power Point did not work properly. (turning slides was not successful) slower access to the Moodle. **12**
- **Passivity of the students/Lack of motivation: 2**
- **Disturbing background:** no one tolerated the others in the block of flat, lack of tolerance, disturbing events round the house or flat (family members, neighbours), kids. **5**
- **Nothing:** There wasn't any hurdle, Both the Moodle and the Teams worked well. **3**

The synthesis of the colleagues' answers

How did the online education affect your mood?



- **Frustration:** rush, it frustrated me, the education frustrated me, if I have to babysit simultaneously, the private life and the work commingle in the same place, which frustrates me. **13**
- **Flexibility/better time management:** flexible time management, more freedom, free life style, more free time because of the lack of travelling. Flexibility was important for me, it's convenient, time saving, because we did not have to go to work day by day. **36**
- **Challenge:** it is a challenge regarding drawing attention, predictability, new methods, forward-looking, progress, challenge from positive aspect. It brings more challenge, and it requires more preparation. **19**
- **Positively:** My mood was totally perfect during the online education. It did not affect my work negatively, moreover, I worked much more! More freedom, it affected me definitely positive from all aspects, diverse preparation. **16**
- **Creativity:** My creativity declined regarding preparing the teaching material, I was motivated, and searched for the solutions creatively, I have achieved the level of a confident user and performer. It motivated me, creativity. As far as creativity is concerned, it affected me definitely positively and I made myself motivated. **12**
- **Lack of movement:** Absence of the usual exercise routine. **2**
- **Neutrally:** There wasn't any major difference, because the students also find the way of dealing with something else, and not participating on the seminar even offline. My experience is, that the online education is not better or worse than the offline, it is just something else. **8**
- **Diversity:** Diverse activities, variables, both more and less free time, it was flexible, the new challenges made me enthusiastic, mishmash: it parallelly meant challenge, safety, whereas it was less motivating to keep in touch with the student via monitor. **7**

The synthesis of the fellow professors' answers. How did the online education affect your mood?



- **Lack of motivation:** indifference, disappointment, frequently monotonous and exhaustive. I had a bit less motivation, one easily becomes comfortable. I had the feeling of talking to a wall. **17**
- **Safety:** Health security, it was safe. **8**
- **Coercion/burden:** coercion to involve the new technique. The conversion required much energy especially regarding the surveys, the tasks and the evaluation. It was necessary to elaborate and apply focus maintaining techniques, which work online as well. I was forced to new techniques. **7**
- **Negatively:** Extremely negatively, the separation of the working hours and the free time totally ceased. **6**
- **Lack of interaction:** I would rather talk to living people, than initials on the monitor. It was impersonal, without any feedback. The lack of personal connections was embarrassing. It was frustrating, that I could not perceive, whether they had understood everything or not. **9**
- **Additional work:** **7**
- **Complacency:** **2**
- **The commingling of work and private life.** **2**
- **There was no change:** **4**

The synthesis of the fellow professors' answers

What restrained your enthusiasm?



- **Nothing/I was as enthusiastic as I used to be:** I tried to present my topics as enthusiastically as usual. There wasn't any problem with the theoretical subjects. Nothing restrained my enthusiasm. **8**
- **Indifference/passivity/lack of motivation:** I could only feel the students' body which was present. Obviously it may occur in the offline education as well, yet, I can make consequences more easily, and I can move my students more directly. **11**
- **Lack of interaction/impersonality:** less interaction, the lack of personal reactions and contacts I spoke to initials, lack of feedback, impersonal connection. I felt the whole education impersonal, and I couldn't follow the reactions of the students. **24**
- **Much waiting (for the students): 1**
- **The lack of look:** I couldn't see the students' look, I could not feel their attention, it was, as if I talked to initials. If the camera is on, the system cannot cope with the lecture, comprising 100 students. **4**
- **The online space:** the discourses are drawling because of the microphone switch on & off, the professional disputes cannot be carried out, the form, the machinelike form, stopgap. **7**
- **Lack of movement: 1**
- **Lack of attention:** Students who didn't pay attention switched off the camera. Their frequent pretext is, that their PC is out of order, and the internet does not work. I could hardly involve the students into the seminars. **3**
- **Methodological restrictions/ how to manage the practical subjects:** Although the online space is good for several activities, much more methodological activities could be carried out personally. I was restricted by the online space, but I tried to do my best, though, it is quite a lonely genre as opposed to the real educational situations. **4**
- **Fatigue:1**
- **Pretexts: 2**

The synthesis of the colleagues' answers

What frustrated you the most?



- **Nothing frustrated me:** The students were collaborative and diligent. There wasn't any. We have to acknowledge the disadvantages of the online educations as well. Our students acknowledged the situation and did their best to adapt. **15**
- **The attitude of the students/passivity:** The attitude of the students reflected (mainly in case of the correspondent students) that they were totally inactive on the seminars. If I asked something, no one answered. Passivity. Although they joined the seminar, they did not answer the questions. **10**
- **Other activity on the seminar:** eating, making phone calls (since the student's microphone was switched on). One of my students thought that she had to prepare lunch during the seminar. When I had to call my students several times, but they were cooking, did the shopping, renovated the house, or his mobile phone beeped, because he was chatting with the others meanwhile. **11**
- **Technical problems:** The interruptions of the internet, when their microphone did not work, they could not join the internet, because it was overburdened. They did not switch on the camera, referring to several reasons. **5**
- **Solving the practical seminars:** The difficulties of solving the practical seminars. **1**
- **Background noise:** Background noise, when the microphone is on: dog barking, baby blues, running water, disappearance of students, sound of the motor, phone ringing, my family was walking around the room during my seminar, they entered the room, the tapping of the wood pecker, the chirping of the parrot, the courier rang the bell. **4**
- **Pretexts:** **4**
- **Being late/lack of presence:** **4**

The synthesis of the colleagues' answers
The summarized positive and negative answers



- **Advantages:** Positive answers **114**
- **Disadvantages:** Negative answers **158**
- **Mood:** positive **91**, negative **65**, neutral **4**
- **The direction of enthusiasm:** positive **8**, negative **58**
- **Obstacles:** **67**
- **The presence of frustration:** there wasn't any (positive) **16**, it was present (negative) **39**

- **The total of the positive answers/advantages:** **229**
- **The total of the negative answers/disadvantages:** **387**

Highlighted answers by students



- I am so stuck into my home, I almost do not have any possibility to leave my home because of the late hours of the seminars, I miss the physical contact with the people and I also miss the strength of the community.
- I had to be in the house the whole day. I had a frequent headache. My eyesight was getting worse.
- The teachers think that we have much more time for everything. The teacher can hardly explain, show and answer to some questions.
- Some teachers take the online education so serious and rigorous, they ignore that any difficulties may crop up due to the pandemic. The terrible internet causes much stress, therefore it is impossible to pay attention to the lecturer. More tasks, than in case of offline education, it is more difficult to acquire or present the teaching material: to touch or try the required objects on the spot. The lack of devices. It is monotonous.

Highlighted answers by students



- There were 1 or 2 days, when the internet totally ceased for 10-20 minutes, and it happened that because of the interruptions of the internet I couldn't write my test. In my opinion, everything diverts the attention at your home, and the daily routine engages us e.g. housework, it is not the same as when we sit in the classroom and we only have to concentrate on the lecture. Everyday activities e.g. the courier came during the seminar, so it was difficult to ensure sustained attention. The cat, lack of space, since I have 3 brothers and we live in a little house. Someone rang the bell, the postman came, someone was drilling, or somebody called me on phone.
- When my husband gets home after a 24 hour service, and I should be in silence (on an interactive seminar, or on P.E lesson), the pigs disturbed me, the thought that how many activities I should fulfil in housework, background noise and my family members disturbed me.

Highlighted answers by students



- The presence of 2 little sisters at home, their teaching, equipping them with technical devices at the expense of my studies, the conform to my family, the noise in my neighbourhood, the postman came, the internet, drilling the wall.
- Helping hand to my sisters, at the expense of my studies, I am at home, or not (because of the kids) noisy background, the screaming of my son, my family members, my roommate, my sister, my family wasn't attentive and they were noisy.
- It makes me so sad. Apathy, we were totally left alone. Every day is monotonous, and nothing special happens, I just sit in front of the P.C all day and night, being locked in, chaotic state (not on the language courses) but on those lectures when there are 145 of us, it's difficult to do anything.

Highlighted answers by professors



- The teacher feels as if he taught in a crypt.
- I missed the live connection with the students so much (the clear eye contact);
- Several times I felt that students were unmotivated, as if I talked to a wall.
- I would rather talk to „living” people than initials on the monitor.
- There is no reaction, therefore I feel as if I talked to a wall.
- Nihilism, the aloofness of students, their flippancy. I missed the eye contact so much, the monitoring of the students' mimics.
- I felt as if I lectured myself.

Highlighted answers by professors



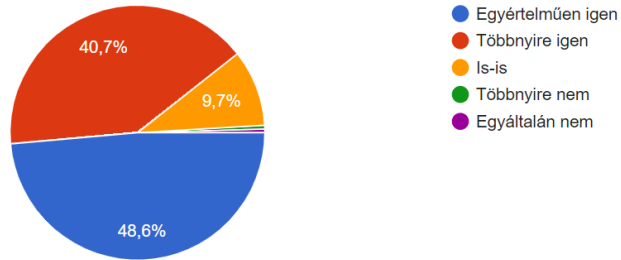
- Eating on the seminar, making phone calls (the students' microphone was on). One of my students thought that she had to prepare lunch during the seminar.
- When I had to call someone many times, while she was cooking, did the shopping, his mobile phone beeped as someone wrote a message for him, the student chose the renovation of the house, instead of the seminar.
- Teaching blind. Students saw me, but I did not see them.
- Barking of dogs, yelling of kids, the students' disappearance in silence, roaring of vehicles, phone ringing, my family was walking around the room during the seminar, my family members entered the room, the courier rang the bell, the sound of the woodpecker, chirping of the parrot.

Faculty of Law enforcement – ESP 1.



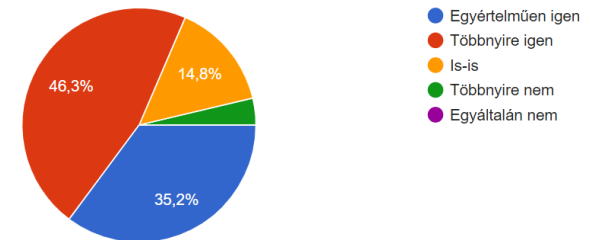
11. A szaknyelvoktatás minősége ugyanolyan volt, mint az offline oktatás alkalmával?

216 válasz



13. Tudtál-e ugyanolyan együttműködni lenni az online térben a szaknyelvoktatás során, mint az offline térben?

216 válasz

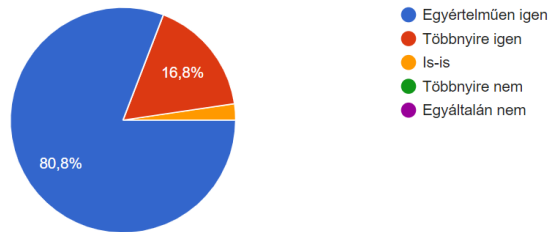


Faculty of Law enforcement – ESP 2.



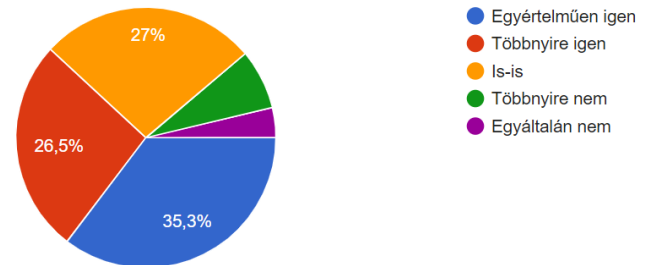
15. Megadott-e minden segítséget a szaknyelvoktató az online oktatáshoz, tudásban és mennyiségben egyaránt?

214 válasz



16. Véleményed szerint, az órarendi jelenléti oktatás jobban elősegíti a szaknyelvtanulást?

215 válasz



Q1. In your view, were you able to acquire/pass on the same knowledge in the same depth as in the case of contact teaching?

Q2. If you had had the opportunity to continue studying/teaching offline, would you have preferred to do



Hypothesis testing for Question 1.					
F-test		t-test		Welch-test	
Test statistics	1.53	Test statistics	0.27	Test statistics	0.31
Critical value	1.39	Critical value	1.96	Critical value	1.98
Conclusion	$\sigma_1 \neq \sigma_2$	Conclusion	$\mu_1 = \mu_2$	Conclusion	$\mu_1 = \mu_2$

Hypothesis testing for Question 2.					
F-test		t-test		Welch-test	
Test statistics	1.07	Test statistics	-0.67	Test statistics	-0.66
Critical value	1.35	Critical value	1.96	Critical value	1.98
Conclusion	$\sigma_1 = \sigma_2$	Conclusion	$\mu_1 = \mu_2$	Conclusion	$\mu_1 = \mu_2$

- Q3. Have you received/provided all possible help within the framework of online education?
 Q4. Have you/your students been motivated enough within the framework of online education?



Hypothesis testing for Question 3.					
F-test		t-test		Welch-test	
Test statistics	1.34	Test statistics	1.67	Test statistics	1.56
Critical value	1.35	Critical value	1.96	Critical value	1.98
Conclusion	$\sigma_1 = \sigma_2$	Conclusion	$\mu_1 = \mu_2$	Conclusion	$\mu_1 = \mu_2$

Hypothesis testing for Question 4.					
F-test		t-test		Welch-test	
Test statistics	1.43	Test statistics	2.03	Test statistics	2.22
Critical value	1.39	Critical value	1.96	Critical value	1.98
Conclusion	$\sigma_1 \neq \sigma_2$	Conclusion	$\mu_1 \neq \mu_2$	Conclusion	$\mu_1 \neq \mu_2$

Q5. Have you/your students been able to concentrate the same way both during online and offline education?

Q6. Have you had disturbing factors – Internet connection, microphone issues, data transfer - during online education?



Hypothesis testing for Question 5.					
F-test		t-test		Welch-test	
Test statistics	2.03	Doesn't work		Test statistics	2.30
Critical value	1.39			Critical value	1.98
Conclusion	$\sigma_1 \neq \sigma_2$			Conclusion	$\mu_1 \neq \mu_2$

Hypothesis testing for Question 6.					
F-test		t-test		Welch-test	
Test statistics	2.47	Doesn't work		Test statistics	5.89
Critical value	1.39			Critical value	1.98
Conclusion	$\sigma_1 \neq \sigma_2$			Conclusion	$\mu_1 \neq \mu_2$

Consequences & perspectives



- The students also missed the offline education, because not only the transferring of the teaching material counts, but the presence of the **social interactions which cannot be substituted by any IT system.**
- There is a tight time frame during the tests, and the deadlines are too short.
- Its effectiveness is not equal to the traditional education. During the **online education, the same amount of material cannot be conveyed as opposed to the offline one.**
- **It by no means substitutes the offline one, the online education made the education process monotonous.**
- The laptop is useless, the Teams system freezes, the laptop couldn't cope with it.
- Presumably, a **new protocol has to be introduced** to adapt the new online teaching method: the students had to **be present by their picture** at least at the beginning of the seminar and at the end of it when saying goodbye, upon no request. A new **minimal online educational standard** should be elaborated.
- In case of offline education, I experienced, that my enthusiasm concerning the topic attracts the students, I can see the body-language, and the mimics as well, which **cannot be seen from a „stamp“.**

Consequences & perspectives



- Our hypotheses are partially justified: the online education as a whole, meant more negative aspects for both the teachers and the students as well, than positive ones.
- The online education can only be successful and accepted, if it is gradually initiated into the academic curriculum, (international experience, HÖK recommendation)
- Our proposals: the initiation of online education in case of lectures, correspondence education, and theoretical modules.
- The practice sessions should remain in contact form.

References



- Ürmösné Dr. Simon Gabriella – Kovács Éva: Az online oktatás hatékonysága a Rendészettudományi Karon az oktatók és a hallgatók szemüvegén keresztül – egy hibrid kutatás eredményei *Védelem Tudomány VII. évfolyam, 1. szám, 2022. 1. hó*

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