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When Students Faced Online Learning in Coronavirus Times. A Case Study

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Abstract

In this paper, we present survey research which we conducted at Maria Grzegorzewska University, Poland, on April 2nd-10th, 2020. This work aimed at gathering information about online learning responses among full-time students of pedagogy. Due to the pandemic situation caused by coronavirus all activities at Polish universities have been suspended. Nevertheless, the learning process has been continued. For the first three weeks, academics and students have tried to adjust to a completely new way of education design and work. Our research provides insight into students' thoughts and emotions which accompanied them during those weeks of online learning courses. During the survey, respondents reported also their difficulties and observations regarding the quality of educational material, contact with lecturers, and reviewed assessments. In general, the majority of respondents have been doing well in this particular situation and positively evaluate the efforts of the lecturers. They find although online learning challenging. In the Introduction, we present circumstances of the research process and methodological background for the survey design. In the Methods section, we describe the survey structure and the respondent group, then we define the survey instruments. Next, the results are presented in two parts. First, we introduce the students' experiences and emotions associated with online learning. Second, we show what respondents said about their actual online courses taken in the studied period. In the following discussion, we present the most important findings and their possible explanation. In Conclusion, we summarize our analysis of the collected material and make recommendations for future research.

Keywords: distance learning; pandemic; remote learning; survey research; university education

1. Introduction

The study aims to summarize the experience of students after a month of remote learning resulting from the introduction of restrictions during the coronavirus pandemic in Poland. All study participants are students of Maria Grzegorzewska University in Warsaw, at which online learning was introduced on March 12, 2020, by Rector of the Academy of Special Education until May 15, 2020[1], at the time of writing this article. The opinions expressed about this form of learning and its implementation at the university would be used to build an overall picture of the current educational situation.

Online course experience has fallen on everyone overnight. This is the first time we have faced such a situation. Remote learning had to be introduced in schools and at universities without prior tests or considerations. For this research, it was particularly interesting how the

[1] Rector's Orders No. 333/2020, No. 336/2020, No. 347/2020, available in Polish: www.aps.edu.pl.

students managed to adjust to this unusual situation. We designed a survey that covered not only the online learning organization process but also stressed the role of emotions that this educational situation has raised. Students were asked to answer honestly what they thought immediately after starting remote work and how they felt about it after 3-4 weeks of remote courses.

According to our knowledge, there is no literature on online learning on such a scale for Polish students. This is still a rare method of studying at the university in Poland, unlike for example in the U.S., where an annual report on the state of online learning in U.S. higher education has been published for years (Allen & Seaman, 2014). But even in the works of other researchers, we have not found enough guidelines or indications on how to investigate personal attitudes to remote learning. Work of (Ali & Ahmad, 2011) presents the three dimensions of distance learning satisfaction, which are student-instructor interaction, instructor's performance, and course evaluation. We took advantage of this research and asked the respondents to evaluate student-lecturer contact, course materials, and lecturers' feedback. However, we have a reason to believe that the emotional side of remote learning is equally important. (Chen & Chen, 2007) proved how access to the Internet and motivation of students can be an important element of online learning as relates to feeling satisfaction. If access to the Internet and motivation were not present, satisfaction would have probably not occurred. This is also to find in our research, as we gathered information about feeling anxiety and joy, and compared it to the evaluation of the experience of online learning.

We designed the web-based survey, according to the e-surveys typology described in the work of (Jansen, Corley, et al., 2006). The survey consisted of three parts; the first one was informative and statistical, the second part was about feelings and emotions connected with remote learning and the third one – about the course of classes, communication with lecturers, and quality of educational materials. The survey was completed by 34 respondents.

2. Methods

The research survey was conducted within 9 days in April, 2nd-10th 2020. While constructing an online questionnaire for the research survey, we have taken into account the foundations of Internet survey ethics proposed in (Buchanan & Hvizdak, 2009). Choosing the right tool for the research was not based or limited only to convenience or ease of use, but first of all to issues of human subjects protection, such as respondents' right to privacy, confidentiality, and anonymity. Participation in the survey was voluntary and the technical process of collecting the answers or opinions was described in detail in the survey introduction. As a consent confirmation, we understood then filling the questionnaire. Moreover, as we surveyed at the university, we respected an academic custom of research transparency and we made results description available to students' groups involved in the research.

In the following subsections, we describe the survey structure and the respondent group which took part in it.

2.1 Survey description

The structure of the study was subordinated to three assumptions. First, it was the time needed to complete a questionnaire. We assumed that one should have filled an online questionnaire in 10-15 minutes. Second, although it is rare to our knowledge in educational

research in Poland, we decided to include the description of emotions in the survey. Therefore, we decided to ask 20 questions divided into three labeled parts. And third, we are confident about the importance of giving a piece of transparent information to the respondents. The whole survey preceded an introduction that served information about the purpose of the research, situation background description, and details about each of the following parts. The introduction included also a formal statement about keeping gathered answers and opinions anonymous and private. The survey questionnaire did not collect any e-mail addresses nor IP identifiers, and afterward, it was not possible to identify individuals who participated in the research. We received 34 fulfilled questionnaires which are the basis of this paper.

The survey questionnaire consisted of three parts (Table 1). Part 1 of the study was designed to gather statistical information about the involved group of students. All questions were single-choice. Six questions were put to the respondents about 1) an age, 2) a gender, 3) residence, 4) Internet availability at home, 5) a device used to connect to the Internet, and the last 6) question asked if one likes to work or study at home. The answers allowed us to learn more about students and understand their background, and general attitude to online education.

Part II of the questionnaire was titled "What emotions does online education bring to you?". The purpose of this survey section was to gather experience, emotions, and thoughts about remote learning which accompanied respondents in the first weeks of coronavirus lockdown. This part consisted of seven questions, including 2 open and 5 single-choice questions. The most significant students' answers are presented in the Result section of this paper.

Part III of the questionnaire was the last one. Here, we asked the respondents to assess the online activities they were participating at the time of the survey. Did they meet students' expectations? This part also contained seven 7 questions, this time including 2 open, 3 single-choice, and 2 multi-choice questions. The results description of this part of the survey follows in the next section.

Table 1: The structure of the questionnaire

Type of questions	Part I	Part II	Part III
	Statistical information	Emotions/Adaptation	Online studying evaluation
Single-choice questions	6	5	3
Multi-choice questions	-	-	2
Open questions	-	2	2

Source: Author's compilation

2.2 Description of the respondent group

The survey research was conducted among undergraduate students of an educational university in Warsaw: Maria Grzegorzewska University, named after Polish educator who brought the special education movement to Poland just after World War I. We have made an online survey questionnaire available to 40 students of pedagogy and have received 34 fulfilled answers.

As mentioned above, the first part of the survey was to collect information about the respondent group, opportunities students have to access the Internet, and their general attitude to online education. Students participating in the study were in the overwhelming majority of women (32 students, 94.1%). The age of participants was in the range of 19-25 years, the largest number of students (20.6%) is in two groups of 19 and 20 years old individuals.

Students who participated in the study live both in the countryside (almost one-fourth of the respondents – 23.5%) and in cities: from small towns below 25 thousand inhabitants (11.8%), through medium-sized cities, where 35.3% of respondents live (25-100 thousand inhabitants – 23.5%; 100-250 thousand inhabitants – 5.9%; 250-500 thousand inhabitants – 5.9%), to cities with more than 1 million inhabitants – 23.5%. Two men took part in the survey, one of them lives in the countryside, the other in a city with over 1 million inhabitants.

The study participants have essentially no problems with a stable Internet connection. As many as 91.2% of students made such a declaration. Most of them use the Internet via a mobile phone or smartphone (64.7%), which suggests that a permanent connection at home is not of great importance for access to the network. Almost one-third of the students most often use the Internet on a laptop (32.4%), one person pointed to a desktop computer (2.9%). No one from the group pointed to the tablet or television set. This description of students' technical habits is consistent with the results of the Polish part of the EU Kids Online research (Smahel, D. et al., 2020).

The last question in this section was about studying or working at home – students were supposed to choose if they like to study/work at home or not. A large proportion of respondents – 29.4% – indicated that they do not like to study/work at home. Since over 90% of students have trouble-free access to the Internet, the technical side of remote work is unlikely to be the reason for this reluctance. Premises as to the reasons can be found in further parts of the study.

2.3 Measurements

Apart from the first set of statistical and information questions, the survey questionnaire consisted of 14 questions. Eight of them were single-choice. We designed the Likert-type scale for collecting participants' opinions in 7 questions, and Net Promoter Score scale for responses evaluation to one question.

A Likert-type scale is commonly used in the social sciences and attitude research projects (Croasmun & Ostrom, 2011). This type of scale was developed by Rensis Likert (Likert, 1931), who described and then developed this technique for the assessment of attitudes. For this study, we used a modified 5-item Likert scale to gather information about students' emotions and well-being in times of coronavirus, and also their opinion about the quality of remote learning tools and lecturers' feedback. Odd-numbered Likert scales provide an option for indecision or neutrality. A reason for using a 5-point scale in our survey was to give respondents a neutral response option, so they were not required to decide one way or the other on an issue. We tried to avoid or reduce the chance of response bias especially in questions about emotions, taking advantage of work (Fernandes & Randall, 1991).

The second instrument used in the research was the Net Promoter Score (NPS). This is a loyalty index, introduced to customer satisfaction surveys in 2003 by Frederick F. Reichheld in the article "The One Number You Need to Grow" (Reichheld, 2003). The NPS is calculated based on responses to a single question: how likely is it that you would recommend…? The scoring for this answer is most often based on a 0-10 scale. Individuals who are strongly convinced of the presented issue usually choose 9 or 10 and are called Promoters. If someone has any doubts, they give answers in range 0-6. They are Detractors. Individuals who choose 7 or 8 are Passives, and they fall in between the other two. The Net Promoter Score is calculated by subtracting the percentage of Detractors from the percentage of Promoters (cf. Figure 1). Although the tool is used commonly to predict future purchases and referrals of individual respondents or to measure, evaluate, and manage employee loyalty, it can present also an individual motivation in other matters. We decided to use this tool to ask a question: Based on

your current experience, would you recommend online studying to students of other universities? Using the NPS tool, we tried to establish if remote learning in the first 3 weeks of lockdown was a convincing way to continue studying.

Figure 1: Net Promoter Score Scale and Calculation Method

Source: Author's compilation

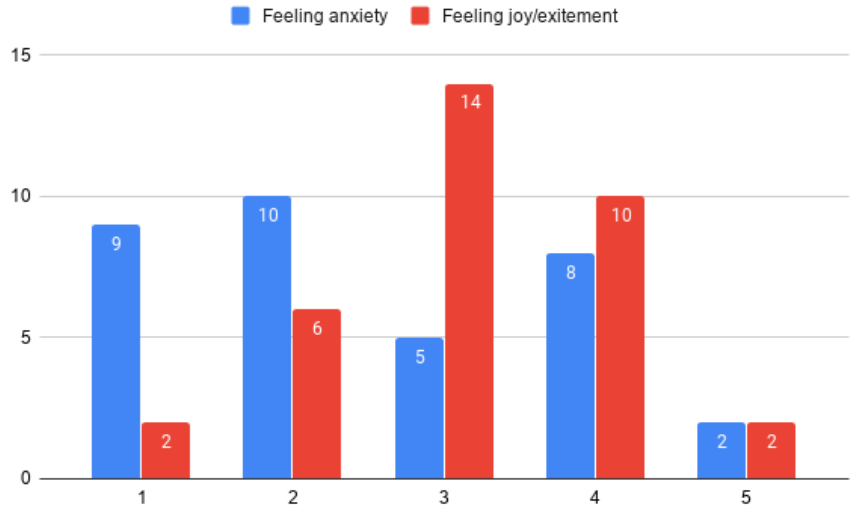
3. Results

In this section, we present the most important results of the two parts of the survey. One part concerned students' emotions such as anxiety, uncertainty, joy and excitement, and their intensity observed by respondents in the first weeks of online study. In the second part of the research, we gathered student's opinions about the quality of the remote courses and online learning organization in general.

3.1 "What emotions does online education bring to you?"

This part of the questionnaire contained 7 questions (see Table 1). Two questions concerned a self-assessment of personal feelings in the first days of remote learning. Respondents decided how much anxiety they felt, and similarly, if they did feel joy and excitement about the new situation. Over half of them indicated "high anxiety and uncertainty" (26.5%) and "slight anxiety and uncertainty" (29.4%). 5 people (14.7%) were not sure what the feeling was with them. Almost a quarter did not feel anxiety or uncertainty at all. Only 2 people (5.9%) felt no anxiety or uncertainty at all. The answers were distributed differently in the next question. Most students – 14 individuals (41.2%) – marked the neutral answer that they did not know whether the feeling accompanying the change was joy or curiosity. A total of 12 people shared these feelings: 10 students chose "I felt joy or excitement" (29.4%) and 2 others – "I felt a lot of joy or excitement" (5.9%). A total of 8 individuals did not experience any joy (5.9%) or almost any joy or excitement/curiosity (17.6%). Figure 2 presents a comparison of the results to those questions.

Figure 2: Comparison of answers to questions about feeling anxious and joy/excited



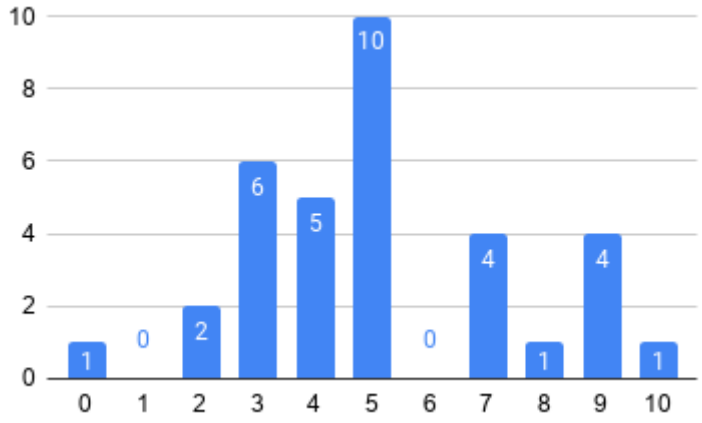
Source: the survey results

After three weeks of online learning, students started to get used to this unusual situation. It was reasonable to ask whether they function in it satisfactorily and did they develop some working methods and cope with their plan (tasks). Most of the respondents (47.1%) chose the answer "I manage somehow", slightly fewer students (41.2%) assessed their work well and very well (29.4%, 11.8%, respectively). Four people chose the answer "I can't do it very well" (11.8%). Nobody gave a completely negative answer.

The last question in this part was to check whether the current form of distance learning was recommendable according to the students and, indirectly, whether they felt comfortable with it. This question was formulated according to the methodology of the Net Promoter Score, described in section 2.3.

When asked if students would have recommended online learning at the university to other students based on their current experience, most of them chose answers in range 0-6. In total, there were 24 Detractors. Only 5 individuals would have recommended this form of learning with conviction and they chose options 9 and 10. They are Promoters. Five students remained neutral – Passive – by choosing answers 7 or 8 (cf. Figure 3). As a result, the NPS ratio calculated for the given answers is -55.8 (14.7% -70.5%).

Figure 3: Responses distribution – Would you recommend to other students online studying?



Source: the survey results

The open question in this part of the survey concerned the first remembered response to a message about remote learning. The answers can be divided into three large groups. The most numerous answers raise the positive aspects of this situation (15 statements). There was a curiosity, contentment, and joy among the emotions. New experience and a good idea were repeated in the statements. Curiosity concerned how the classes would look like, how they would work in practice. Respondents wrote about satisfaction when they mentioned the circumstances of the situation, e.g. wasting time traveling to the university. The students were also happy that the learning was not interrupted, there would be no repetition of classes or in the worst case of the year. The reason for joy was also staying at home, which could be used for learning, but also home chores for which time was lacking before. And even to relax after spending many hours at the university.

Ten respondents mentioned negative emotions: slight anxiety, great worry, dissatisfaction, fear, uncertainty, and embarrassment. Most often there were talks about dissatisfaction caused by the fact that there would be no classes at the university stationary and there would be no direct contact with the lecturers. Organization of classes and access to materials were also of concern. Fear and anxiety were associated with the mode of passing upcoming exams.

3.2 "How do you evaluate the content of remote courses?"

The last part of the survey concerned the general evaluation of the activities in which the respondents have participated in the current semester. Have the expectations from this form of learning been fulfilled? What is the students' opinion about conducting classes and evaluating them?

First, the students were asked to what extent they assessed the contact with the lecturers as efficient and quick. The vast majority of the respondents (29 individuals, 85.3%) chose the positive evaluation: 21 people agreed with the statement that communication was efficient, adequate and 8 people described it as very efficient and fast. Five respondents (14.7%) chose the statement that communication is neither too fast nor too slow.

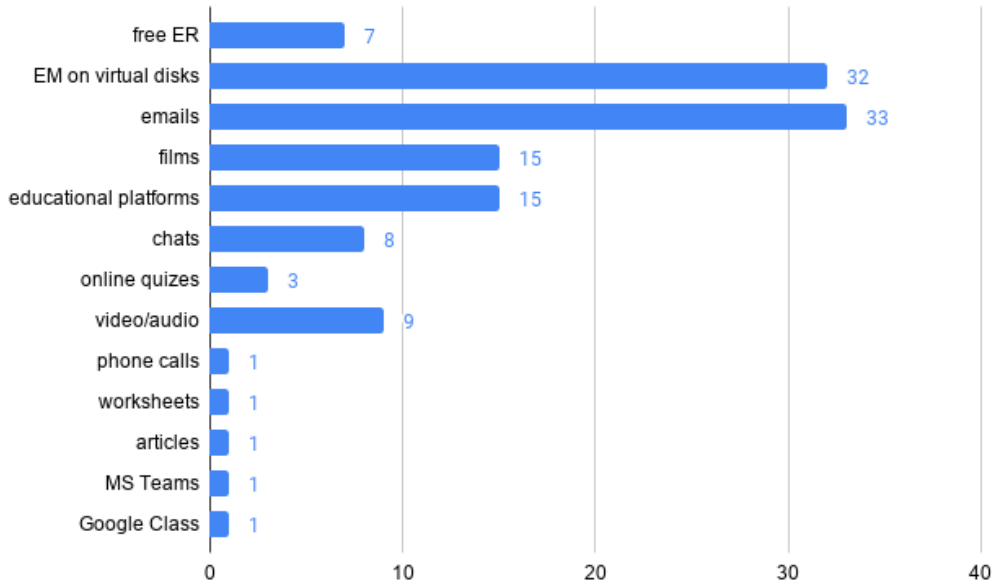
The second issue was the quality of educational materials that students have received from the lecturers (or have had access to available educational resources). This question was also positively answered by the majority of students (23 individuals, 60.7%): 16 students rated the materials as "good and sufficient", while 7 of them described them as "very good and

interesting". More respondents (10 individuals, 29.4%) than in the previous question marked the neutral answer – meaning here that the materials were rated as "average". One person assessed the quality of the materials provided very low, and chose the answer "very weak and insufficient".

In response to the next question about the usage of e-learning techniques, students could choose any number of methods and could add another which were not included in the list (Figure 4) Almost all of the respondents indicated two techniques present during the remote courses: e-mails and educational materials on virtual disks (in the cloud), i.e. 33 and 32 individuals respectively. The next frequent methods of online learning were supported by educational platforms (modular structure) and films (15 responses to both methods). Next, the respondents indicated: video and audio conferences (9), chats (8), publicly available educational repositories (7). As additional methods of e-learning one person wrote in the questionnaire such extensive tools as Microsoft Teams and Google Classroom. In total, three respondents added 5 additional online learning methods and techniques.

The last issue given to the students for evaluation was the question of feedback that the respondents have received from the lecturers on the submitted works or tasks. The majority of students, 23 individuals (67.6%), indicated that they received information that was helpful (15 persons) and comprehensive (8 persons). Seven people chose the neutral option – the information provided to them was sufficient. However, more than 10% of students revealed that they had received very little information (2.9%) or insufficient information (8.8%).

Figure 4: What e-learning methods and tools are used during your courses?



Source: the survey results

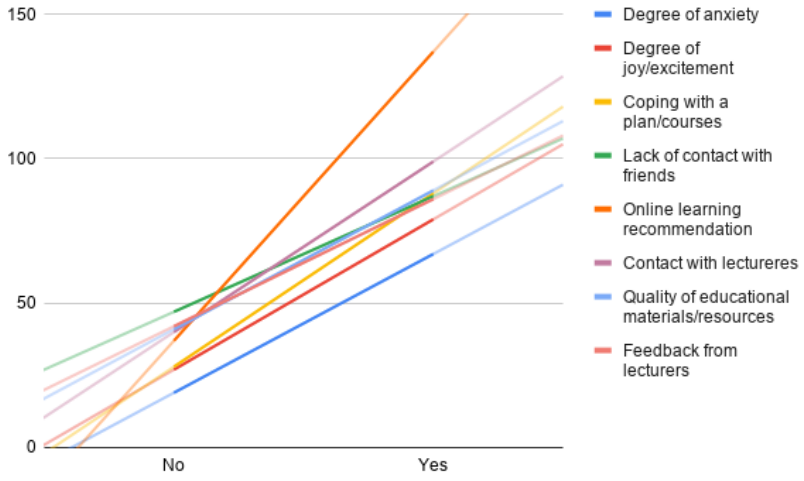
4. Discussion

The results of this survey research showed that the vast majority of the students were doing well during the first weeks of remote learning. They evaluated their everyday contact with the lecturers as at least good and effective. The respondents indicated that they have received education materials of good quality and have got usually valuable feedback from their academic

teachers. Nevertheless, the students did not recommend online studying at all and we would like to discuss this issue in this section. According to our analysis, there are three possible explanations for this result.

The current study found that the place of residence – a town or the countryside – did not have any correlation to remote learning preference. However, the results of the survey confirmed the association between a preference for studying/working at home and other factors. Figure 5 shows how the answer 'yes' or 'no' to the question of whether one likes or dislikes studying at home affects other survey observations. It is clear that the individuals who have not preferred working at home indicated in general lower values to survey questions than others. More students in this group felt anxiety and did not feel excitement or joy. They had more often inadequate contact with lecturers and evaluated educational materials as insufficient.

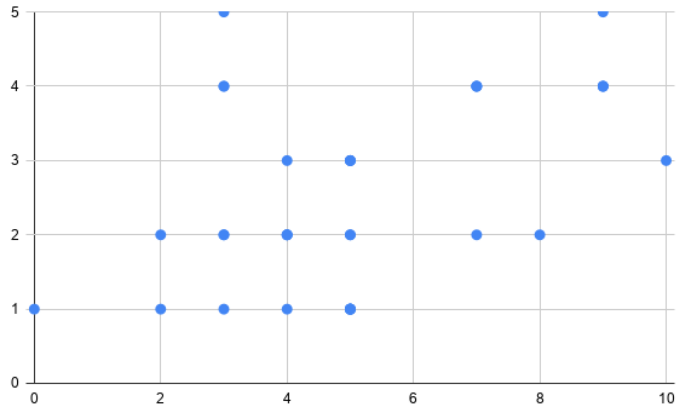
Figure 5: How 'to like/dislike of studying at home' affects other survey observations



Source: the survey results

The next issue was feeling the lack of direct contact with study friends. The vast majority of respondents – 25 people (73.5%) – said that they lacked such contact (29.4%) or they lacked contact very much (44.1%). A similar percentage of answers (70.6%) was given in the affirmative to the question about the preferences for work at home. Comparing these two questions, it can be concluded that direct social contact at the university plays an important role for the students, even when (or even though) they like to study at home to a large extent, probably alone. It is also worth looking at the negative answers to this question, given by 10 individuals who did not prefer studying at home. All those respondents indicated that they have lacked direct contact: seven of them evaluated it as a very strong feeling of longing. This is consistent with the fact that they do not like working or studying at home.

Figure 6: Combination of the degree of anxiety and online studying recommendation scale



Source: the survey results

The survey results confirm the correlation between a degree of feeling anxious and online learning preference. Figure 6 illustrates the association between the answers to those survey questions. When the respondents felt more anxious, i.e. they chose labels 1-3, they also chose a more often negative answer to the question about online studying recommendation (labels 0-7, but mostly 2-5). This seems reasonable to say that in the current situation, after 3-4 weeks of the lockdown, remote learning did not inspire enough trust among the students to recommend this form of education to others. This prudence in the respondents' opinions is understandable: online learning was introduced suddenly, without prior arrangements and training, without appropriate tools. There was also no question of voluntary choice of this form of education.

Summarizing the discussion of the results, during the first weeks of the remote learning the students felt anxious and uncertain, they were also not comfortable with forced isolation from their study friends and academic lecturers. One-third of the respondents did not prefer working or learning at home. Those three factors observed together allowed us to interpret the reasons behind the strong statement that the students did not recommend remote learning.

5. Conclusion

The paper presents the results of the online survey which was conducted among the students of Maria Grzegorzewska University in Warsaw, April 2nd-10th 2020. In this research, we gathered students' opinions on the issue of online courses in times of the coronavirus pandemic. We expected that the respondents would be satisfied with remote learning despite the feeling of uncertainty and anxiety about the current situation. We asked also to answer the question if they would recommend this way of studying to others.

Summarizing the results of the survey, one can see that the respondents were doing well in this particular situation. Remote learning was introduced unexpectedly, from day to day, without prior preparation and a plan. Most of the students have managed to cope with the challenge of the plan and the online courses. They also positively assessed the efforts of the lecturers in general. Nevertheless, this form of education would not be recommended by the students to their colleagues at other universities. Just a few weeks of remote learning did not inspire enough confidence in the studied group to give up personal contact with the lecturer. The majority of students also lacked colleagues and university atmosphere, which they did not have at home. It should be noted that in the respondent group there were as many as 29.4% of people who generally did not like to study and work at home.

Now, we have lectured, learned, and studied online for two months. There are still unanswered questions concerning the study organization at the beginning of the coronavirus lockdown. It is still uncertain how well students will pass their subjects and exams this academic year. Further analyses of this semester course are strongly recommended. We would be especially interested to know a) what type of online contact is the best for the students need, b) which tools are appropriate for online studying, and c) how the students could effectively and fruitfully cooperate in a similar situation in the future. The additional analysis of the collected material would allow thinking in the future which elements of e-learning should be included in traditional lectures and practical classes. Moreover, we plan to repeat the survey research to another student group at the end of the semester, we would compare the results of both studies – at the beginning of the coronavirus lockdown and after at least three months.

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