

Do Humanity Student New Needs Meet the State Decisions of Distance Learning during the COVID-19 Epidemic in Ukraine?

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This study aims to verify do the humanity student new needs meet the State decisions of distance learning in distance learning during COVID-19 epidemic in Ukraine. It was used the research methods: general scientific research methods; study of official documents and scientific resources; statistical methods, including verification of statistical hypotheses. It was 77 students of humanity specialties. Verification of statistical hypotheses led to the Alternative hypothesis. The principal result is that the humanity student new needs in distance learning do not meet the state decisions of distance learning related to the COVID-19 epidemic in Ukraine. The result is highly statistically significant (99.0%). The major conclusions are: 1) the state decisions of student health are distance learning in the amount of 100%; 2) the humanity student new needs in distance learning are 25.00% - 46.25%; 3) this amount is less than it was just before the pandemic came (54.20% - 68.66%). The new scientific knowledge has important practical and theoretical significance. The authors prepared some multi-level recommendations about distance learning during the COVID-19 epidemic for Ukrainian authority and universities. This study is helpful for higher education institutions who use distance learning .

Keywords: humanity student, student educational needs, distance learning, Ukrainian student, the COVID-19 epidemic

Distance learning became very important because our civilization met with the COVID-19 epidemic (WHO, 2020). And many universities were forced to stop studying. Later, they started using distance learning at a rate of 100%. Since Ukrainian universities have not used distance learning before, they have faced theoretical and practical problems. Our research is empirical in nature. The authors did not deal with the theory of distance learning (Sutton et al, 1995). They studied the humanity student new needs in distance learning during COVID-19 epidemic.

The first study used by authors was the empirical study (Mahmudah et al., 2021), published earlier. The cited research studied home learning model and education innovation in the terms of the COVID-19 pandemic. The next study (Zhurba et al., 2021) showed that the needs of Ukrainian students in distance learning were in the amount of 43% just before the start of the Covid-19 pandemic. The paper (Zhurba et al., 2021) showed that the decision of the Ukrainian authorities to use distance learning in the amount of 100% did not meet the educational needs of students when the COVID-19 pandemic has started.

Our study continues this important topic of distance learning of humanity students in Ukraine. The authors investigated the new level of student educational needs in relation to distance learning, formed during the COVID-19 pandemic. On the one hand, students studied distantly for a year and a half. And these one and a half years they felt moral discomfort. This discomfort is associated both with the unwillingness to study distantly, and with the authorities ignoring their needs.

The situation is complicated by the fact that in the countries of Eastern Europe, students are not subjects of the educational services (Okulich-Kazarin, 2020). Therefore, the Ukrainian authorities do not coordinate their decisions of student community health with the student educational needs in distance learning.

Thus, state decisions of student health care ignore the needs of students twice. For the first time, state decisions ignored the needs of students in distance learning (Zhurba et al., 2021). For the second time, the first state decisions ignored the needs of students for respect (Maslow, 1954). According to (Maslow, 1954), dissatisfaction of needs leads to a feeling of additional discomfort.

The lack of satisfaction of these needs leads to the blocking of a higher-level need - a cognitive need. This, in turn, reduces the quality of education and again adds moral discomfort. Thus, a simple state decision on distance learning of students in the amount of 100% is not the only correct decision. This decision has a negative consequence in the form of deterioration of student health. On the other hand, a year and a half of distance learning should have led to the adaptation of students to distance learning. It is possible that the new needs of students in distance learning coincide with the state decisions on distance learning 100% and students have stopped feeling moral discomfort. Based on the above, it is very important to investigate the new level of student educational needs in relation to distance education, formed during the COVID-19 pandemic. Firstly, we mean humanity students.

The results are important for Ukrainian authorities, university leaders and scientists. They are also important for authorities, university leaders and scientists of other countries who deals with education quality and student health.

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Literary review

Some negative consequences for student health when students use distance learning

The authors of the article (Hasanuddin et al., 2021) are sure that COVID-19 pandemic time is a big problem for education. Almost the whole world was affected by the "Study From Home policy" during the Covid-19 Pandemic (Nurulfa et al., 2021).

The authors of the article (Cooper et al., 2021) write that loneliness is a common phenomenon in adolescence and is associated with a number of mental health problems. Such feelings may have been reinforced by the social distancing measures introduced during the COVID-19 pandemic. The authors further examined the transverse associations and longitudinal relationships between loneliness, social contacts and relationships with parents and subsequent mental health. Adolescents who reported higher loneliness had higher symptoms of mental health problems during the pandemic (Cooper et al., 2021).

There were 432 respondents interviewed in the paper (Nurulfa et al., 2021). 30.79% of them reported: "I have difficulty learning concentration during online learning". And 34.03% reported that "I feel dizzy when staring at my laptop/computer or cellphone for a long time" (Nurulfa et al., 2021).

Moreover, distance learning in amount of 100% impacts negatively on mental health of students. The survey by Young Minds shows that 83% of young respondents agreed that the COVID-19 pandemic worsened pre-existing mental health conditions. The main reason is education institutes were closed and social communications were restricted (Grubic et al., 2020).

The author of the article (Kanzow et al., 2021) claims that during the COVID-19 pandemic, entrance to universities was restricted for students. Thus, the use of distance learning in the amount of 100% increases the feeling of loneliness among students. Finally, the article (Zhurba et al., 2021) approves that the sudden transition to 100% of distance learning can affect the mental and physical health of students. So, we have no reason to doubt the importance of our study. Several reputable scientists prove the negative impact of 100% distance learning on the mental health of students. The authors would like to contribute to improving the student health care through our study and some recommendations.

Theoretical brief about humanity students

About sixty years ago, the famous English writer and philosopher Charles Snow read the report "Two Cultures" (Snow, 1963), in which he expressed reasonable fears that representatives of the humanitarian sciences understand representatives of the natural sciences worse and worse.

In post-communist science, it is customary to divide academic subjects into three profiles (Samygin, 1998; Slastenin et al., 2002):

- Technical profile.

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- Natural profile.
- Humanitarian (humanity) profile.

From a theoretical point of view (Samygin, 1998), the complexity of the problem lies in the different structure of the mental abilities of people with a tendency to technical, natural and humanitarian specialties. Since traditional lectures are based on the auditory method of teaching (Kayalar & Kayalar, 2017), at first glance, there will be no problems with "humanities" at traditional lectures.

They, humanity students, constantly live "in the world of words" (Samygin, 1998; Slastenin et al., 2002). Humanity students are good at remembering what they hear when they assimilate information with the help of an auditory representation. And face-to-face method of training should be quite comfortable for them.

In our study, the preferences of humanity students in relation to the distance teaching method were evaluated. The authors believe that from a theoretical point of view, the distance learning method should not be comfortable enough for humanity students.

From a theoretical point of view, the humanity students should suffer more than students of other profiles concerning of distance learning in the amount of 100%. It is more difficult for them to psychologically adapt to the terms of limited contacts and direct communications. The feeling of loneliness should have a negative impact on their moral state. This can be expressed in a feeling of anxiety, fear, uncertainty. In the end, these are a student health problem. It was the authors' decision to start a study with humanity students. This decision was reflected in the research question, the purpose of the study, the key hypothesis and the sample of respondents.

State decisions of distance learning related to student health care during COVID-19 pandemic in Ukraine

The Coronavirus disease has appeared in December 2019 (Li et al., 2020). Soon the World Health Organization has declared a pandemic (WHO, 2020). The pandemic Covid-19 strongly impacts the health of every of us (Xing et al., 2020). The actions of the Ukrainian authorities included two decisive steps concerning educational institutions. At the first step, starting since March 12, all educational institutions were closed for quarantine purposes (Government decision, 2020). The heads and teachers of educational institutions were ordered to start distance learning. At the second step, the quarantine was extended since March 26 till April 24 (Two scenarios, 2020). Since March 26, all 100% of classes have been held in the form of distance learning.

Again Ukrainian universities have started distance learning related with COVID-19 from October 12, 2020 (Ukrainian universities, 2020). Since January 8, 2021, new strict quarantine restrictions have begun to operate (Tightening of quarantine, 2021). Now students even have to pass the session remotely. The Minister of Health of Ukraine Lyashko (2021) said that a new lockdown may be started in the fall of 2021. Thus, responding to the threat of COVID-19, the Ukrainian authorities have increased the share of distance learning to 100%. These decisions were made in order to take care of the

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health of students. Therefore, the study of the needs of Ukrainian students in distance learning has practical and theoretical significance.

Method

Total Information

Our study was carried out since April 2021 till November 2021 in Ukraine. It was used these research methods:

- general scientific research methods (methods of analysis and synthesis, induction and deduction);
- study of official documents and scientific resources;
- statistical methods, including verification of statistical hypotheses (Singpurwalla, 2015).

The research question was do humanity student new needs meet the state decisions of distance learning during COVID-19 epidemic in Ukraine? The subject of the study is: relationship of the humanity student new needs in distance learning and the state decisions of distance learning during COVID-19 epidemic in Ukraine. The aim of the empirical study is to verify do the humanity student new needs meet the State decisions of distance learning in distance learning during COVID-19 epidemic in Ukraine.

Research Hypothesis

A couple of statistical hypotheses were created for the verification (Singpurwalla, 2015).

The Null hypothesis: the unknown mean for the humanity student new needs in distance learning is equal to 100%, if random deviations are not taken into account.

The Null hypothesis is written: $\mu_0 = 100.00\%$.

The Alternative hypothesis: the unknown mean for the humanity student new needs in distance learning is not equal to 100%, if random deviations are not taken into account.

The Alternative hypothesis is written: $\mu_0 \neq 100.00\%$.

Why the Null hypothesis claims that the unknown mean for the humanity student new needs in distance learning is equal to 100%?

The method of hypothesis testing about the average general population is to calculate t-statistics (BUS_9641_5M, 2010; Singpurwalla, 2015).

The authors understand that in reality it is almost impossible to have such a value. In our case, the authors accepted $\mu_0 = 100.00\%$, since the Ukrainian authorities have increased the share of distance learning to 100%.

Plan of the study

The study was carried out in the four steps:

1. The literature review was the first step. Here, the authors studied negative consequences for student health when they use distance learning. Also, relevant scientific literature and legal acts of the authority of Ukraine related to distance learning and the student health during COVID-19 pandemic were studied. Finally, the authors made theoretical brief about humanity students.

At this step, more than 100 scientific sources were thoroughly studied. Among

them there were some articles published in Journals indexed in the Scopus database.

2. The second step was to create a question for questioning students. The question was: "What share of distance learning do you need today?".

3. At the third step, the authors drew up an experiment plan and interviewed the students in accordance with the book (Singpurwalla, 2015). The survey scheme included the following groups of humanity students:

- first-year students who have only distance learning experience and senior students who have studied both remotely and in classrooms,
- humanity students of Bachelor and Master degrees,
- university students and college students.

All students were full-time students, since part-time students spend less time together studying in classrooms.

There were a total of 77 respondents.

4. Finally, the authors made a statistical processing of the results, including verification of statistical hypotheses in accordance with the book (Singpurwalla, 2015). Also it was used the verification of statistical hypotheses with nonparametric test (BUS_9641_5M, 2010).

After discussions, the authors formulated the Conclusions and recommendations.

Thus, we have performed an excellent multi-sided study.

Respondents

The serial (nested) sampling (Kravchenko, 2014) was used for the experiment. The authors tried to achieve the maximum diversity of students by gender, age and geographical region. The study involved humanity students from the National University "Odessa Law Academy", State Institution "Luhansk Taras Shevchenko National University" and the Dnipro Professional Pedagogical College of the Kommunal institution of higher education "Dnipro academy of continuing education" of Dnipropetrovsk regional council. So, there were students of East, Central and South regions of Ukraine in the study. All students were surveyed in May-July 2021. Participation of students in the study was voluntary, and authors didn't offer any compensation to students.

In the study, humanity students from the following groups were interviewed:

- first-year students who have only distance learning experience and senior and master students who have studied both remotely and in classrooms,
- humanity students of Bachelor and Master degrees,
- university students and college students.

Our study has five elements:

1. We investigated the student educational needs in distance learning. That is, we have measured the current educational needs of students in distance learning.

2. We studied only students of the humanities profile.

3. We interviewed both kind of students as college students as university students.

4. We interviewed first-year students who have no experience of studying in classrooms and lecture halls. First-year students have only distance learning experience. And distance learning is the only possible norm for them.

5. We interviewed senior students. These students have experience of studying in classrooms, without distance learning.

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The general characteristics of the respondents are given in Table 1. The data in Table 1 is available after the rejection of inaccurate answers.

Table 1
General characteristics of the respondents, 2021

No	Indicator	Sum	University
1	Management, Bachelor, 1 year	6	Odessa Law Academy
2	Management, Bachelor, 2 year	6	
3	Social work, Master, 2 year	6	Luhansk Taras Shevchenko
4	Social work, Bachelor, 2-4 year	10	National University
5	Social work, Bachelor, 1 year	6	
6	Primary education, Bachelor, 3 year	27	Dnipro Professional
7	Primary education, Bachelor, 1 year	16	Pedagogical College
Total		77	

Source: own data

Table 1 shows that a good range of humanity students from three regions of Ukraine is presented. In total, there were 77 participants in 7 groups in the study. The number of respondents is from 6 to 27 in the groups.

In the ascertaining and formative pedagogical experiment, it is traditionally considered that the number of respondents equal to 6 is a small number for comparison. At the same time, the theory of statistics and statistical Table 9.1.1 (BUS_9641_5M, 2010) make it possible to compare small groups of 2-3 persons with a given significance level. The lower limit of the number of respondents in the group was chosen to be 6 based on the rate of change of the critical value t_{table} (BUS_9641_5M, 2010). For example, the study (Kayalar & Kayalar, 2017) was carried out with 15 respondents.

The use of statistical methods allows us to extend the results obtained to the whole general population of humanity students of Ukraine. This can be done with a controlled probability.

Results

Statistical processing of questionnaires

Then the authors performed the initial processing of the questionnaires. These were calculated statistical indicators (Table 2) for each group of humanity students:

- the expected value (\bar{X}),
- the average for the sample (δ_x), and
- the average for the population (δ_{x-1}).

Table 2
Statistical indicators, 2021

No	Indicator	\bar{X}	δ_x	δ_{x-1}
1	Management, Bachelor, 1 year	26.25	6.49	7.50
2	Management, Bachelor, 2 year	30.00	18.25	20.00
3	Social work, Master, 2 year	46.25	19.16	22.13
4	Social work, Bachelor, 2-4 year	25.00	6.70	7.07

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5	Social work, Bachelor, 1 year	26.00	4.89	5.47
6	Primary education, Bachelor, 3 year	45.96	26.81	27.35
7	Primary education, Bachelor, 1 year	25.66	21.82	22.58

Source: obtained from primary data

Table 2 shows the expected value (\bar{X}) for various groups of humanity students. For first-year Bachelor students, \bar{X} is in the range of 25.66 - 26.25 for both university students and college students. For senior students, \bar{X} is 25.00 and 30.00 for university students. And for master students \bar{X} there is 46.25. This is higher than for university senior students.

For senior students \bar{X} is 45.96 for college students. This is higher than for university senior students. Table 2 shows that the need in distance learning is minimal for first-year students compared to senior and master students. At the same time, Table 2 shows that \bar{X} is less than 100%. However, we cannot say whether the difference between \bar{X} and 100% is the result of random deviations? Or should this difference be explained by other reasons? In other words, we have no scientific proof that the humanity student new needs in distance learning meet the state decisions of distance learning during COVID-19 epidemic in Ukraine. So, the purpose of the next stage is to test the Null hypothesis: the humanity student new needs in distance learning meet the state decisions of distance learning during COVID-19 epidemic in Ukraine. In subsection 3 of the section "Literary review" it was shown that the Ukrainian authorities have increased the share of distance learning to 100%. Given this proven fact, the Null hypothesis sounds like this (Singpurwalla, 2015): the unknown mean for the general population of humanity students is equal to 100%. Here we are talking about the humanity student need in distance learning.

The Verification of Statistical Hypotheses: the unknown mean of the humanity student new needs in distance learning is equal 100%

The verification of the Null hypothesis gives us new objective research knowledge about the relationship of the humanity student new needs in distance learning and the state decisions of public health within student community in Ukraine. The acceptance of the Null hypothesis means that the humanity student new needs in distance learning meet the state decisions of distance learning related to student health care. The acceptance of the Alternative hypothesis means that the humanity student new needs in distance learning do not meet the state decisions of distance learning related to student health care. Taking into account the composition of respondents, the authors tested statistical hypotheses separately for the first-year Bachelor students and for the senior and master students. The first of them studied distantly from the very beginning. They have no face-to-face training experience. The second of them have both distance learning and face-to-face training experience.

The verification of statistical hypotheses for the first-year Bachelor students

The first-year Bachelor students are in groups No 1, No 5 and No 7. Table 3 shows the results of the verification of statistical hypotheses.

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Table 3

The verification of statistical hypotheses for the first-year Bachelor students. The significance level is 99.0%

No	Indicator	Gr-1	Gr-5	Gr-7
1	Sample size, n	6	6	16
2	Average of sample, \bar{X}	26.25	26.00	25.66
3	Standard deviation for sample, δ_x	6.49	4.89	21.82
4	Average error, $\hat{S}_X = \delta_x / \sqrt{n}$	2.65	1.99	5.46
5	Value $ t_{stat} $ for $\mu_0 = 100.0$, $(\bar{X} - \mu_0) / \hat{S}_X$	27.83	37.19	13.62
6	Value t_{tabl} for significance level 99.0%	4.032	4.032	2.947
7	Result, $ t_{stat} > t_{tabl}$	Yes	Yes	Yes

Source: obtained from primary data

If in Table 3, t-statistics $|t_{stat}|$ is larger than the t_{tabl} , so the authors reject the Null hypothesis. And they accept the Alternative hypothesis: the unknown mean for the humanity student new needs in distance learning is not equal to 100%, if random deviations are not taken into account. The fixed difference of the statistical average \bar{X} and the specified value ($\mu_0=100.0$) can not be explained by randomness only (Singpurwalla, 2015). This means that the humanity student new needs in distance learning do not meet the state decisions of distance learning related to student health care. We are talking about the first-year Bachelor students new needs in distance learning.

The verification of statistical hypotheses for the senior and master students

The senior and master students are in groups No 2, No 3, No 4 and No 6.

Table 4 shows the results of the verification of statistical hypotheses.

Table 4

The verification of statistical hypotheses for the senior and master students. The significance level is 99.0%

No	Indicator	Gr-2	Gr-3	Gr-4	Gr-6
1	Sample size, n	6	6	10	27
2	Average of sample, \bar{X}	30.00	46.25	25.00	45.96
3	Standard deviation for sample, δ_x	18.25	19.16	6.70	26.81
4	Average error, $\hat{S}_X = \delta_x / \sqrt{n}$	7.45	6.61	2.11	5.16
5	Value $ t_{stat} $ for $\mu_0 = 100.0$, $(\bar{X} - \mu_0) / \hat{S}_X$	9.39	8.13	35.54	10.68
6	Value t_{tabl} for significance level 99.0%	4.032	4.032	3.250	2.779
7	Result, $ t_{stat} > t_{tabl}$	Yes	Yes	Yes	Yes

Source: obtained from primary data

If in Table 4, t-statistics $|t_{stat}|$ is larger than the t_{tabl} , so the authors reject the Null hypothesis. And they accept the Alternative hypothesis: the unknown mean for the humanity student new needs in distance learning is not equal to 100%, if random deviations are not taken into account. The fixed difference of the statistical average \bar{X} and the specified value ($\mu_0=100.0$) can not be explained by randomness only (Singpurwalla, 2015). This means that the humanity student new needs in distance learning do not meet the state decisions of distance learning related to student health care. We are talking

about the senior and master students new needs in distance learning. Thus, we note that the new needs in distance learning of all the surveyed students are not equal to 100%. That is, the humanity student new needs in distance learning do not meet the state decisions of distance learning related to student health care in Ukraine.

The obtained result is highly statistically significant (99.0%).

Verification of statistical hypotheses with nonparametric test

The analysis performed in paired data by nonparametric procedure. It was using the sign test on the differences (BUS_9641_5M, 2010). The Null Hypothesis claims that just as many units go up (comparing the students' needs values X and the share of distance learning concerning of Ukrainian authority decision Y) as down in the population. Any net movement up or down in the sample would just be random under this hypothesis. The difference is not statistically significant. In accordance with the Null hypothesis, the movement of the students' needs and the share of distance learning up or down happen by chance.

The Alternative Hypothesis claims that the probabilities of going up and down are different. The difference is statistically significant. In accordance with the Alternative hypothesis, the movement of the students' needs and the share of distance learning up or down happen not by chance.

The procedure of statistical hypothesis testing:

1. We built a new Table 5. A new dataset is created in this table.

Table 5 shows the data for the statistical analysis in the two paired samples.

A column "X" contains the students' needs values. A column "Y" contains the value for the share of distance learning concerning of Ukrainian authority decision.

Table 5

The Data is for statistical analysis: it was using the sign test on the differences

	Gr-1	Gr-2	Gr-3	Gr-4	Gr-5	Gr-6	Gr-7
X	26.25	30.00	46.25	25.00	26.00	45.96	25.66
Y	100.00	100.00	100.00	100.00	100.00	100.00	100.00
X – Y	minus	minus	minus	minus	minus	minus	minus

Source: obtained from primary data

2. The modified sample contains indicators that have differences only (see Table 3). The modified simple size is $m = 7$. A column "X-Y" contains the difference between values. The sign "minus" in the column "X-Y" represents the difference of the students' needs values X and the share of distance learning concerning of Ukrainian authority decision Y. The Table 3 shows that the number of indicators that is negative (the value in the string "X-Y" is "minus") is 7 units.

3. The limits for the "sign test" are 1 and 6 for $m = 7$ and at the level of hypothesis testing 5% - see Table 16.1.1 (BUS_9641_5M, 2010).

4. Since the number 7 falls outside the limits (i.e. it is more than 6) we reject the Null Hypothesis and conclude that the result is statistically significant. We accept the Alternative Hypothesis. The students' needs is significantly different from the share of distance learning concerning of Ukrainian authority decision.

The result is statistically significant (5%). So, the verification of statistical

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hypotheses with nonparametric test showed the same result as the method of hypothesis testing by calculation t-statistics.

Discussion

What new results have we got?

First, the authors studied the new needs of students in distance learning. This new needs for humanity students were formed during the COVID-19 pandemic. It is proved statistically that the humanity student new needs in distance learning do not meet the state decisions of distance learning during the COVID-19 pandemic. It is a real problem of distance learning during the COVID-19 pandemic in Ukraine from two points of view. The first point is the student health. The second one is a quality of higher education. The education system is the main factor of updating of tenor of life of the state and further development of democratic institutes (Belentsov et al., 2017). Therefore, this problem of distance learning should be solved at the level of the authority and universities of Ukraine.

The authority and universities of Ukraine should take measures to meet their decisions of 100% distance learning with the new needs of humanity students. Second, we note that the new needs in distance learning is minimal for the first-year students compared to the senior and master students. This can be explained by the fact that the first-year humanity students do not have any experience of studying in classrooms. Their need in distance learning is about 25%. They do not feel very comfortable in the amount of 100% distance learning. The senior and master humanity students have experience of studying both in classrooms and distantly. They could understand the advantages and disadvantages of distance learning. Their new need in distance learning is 25.00% - 46.25%. This means they like distance learning more than the first-year humanity students. Third, it is very interesting to compare our results with the results published in the article (Zhurba et al., 2021). In the article (Zhurba et al., 2021), humanity students were interviewed. They were the senior and master humanity students of university. Their need in distance learning was 54.20% - 68.66% just before the pandemic came (Zhurba et al., 2021).

Now the senior and master humanity students' need in distance learning is 25.00% - 46.25%. This amount is less than it was just before the pandemic came: 54.20% - 68.66% (Zhurba et al., 2021). This fact may mean the rejection of an excessive amount of distance classes by humanity students of senior and master courses. This fact may prove our theoretically justified assumption that students feel uncomfortable when their needs are not realized.

Does the new knowledge gained by the authors have serious practical significance?

The new knowledge gained by the authors has serious practical significance. Now we know the amount of this new needs in distance learning as a percentage of the number of classes. Therefore, universities can meet it after the end of the pandemic. The amount of distance learning should be about 25% for the first-year humanity students. This decision meets their needs in distance learning. The amount of distance learning should

be about 25% - 45% for the senior and master students. This decision meets their new needs in distance learning. So, the results obtained have serious practical significance:

- The authority of Ukraine and, possibly, other countries should abandon the state decisions of 100% distance learning, as the only correct solution. At least, the result obtained concerns humanity students.

- The authority of Ukraine should look for other ways to protect student health during the COVID-19 pandemic in Ukraine.

Does the empirical study have theoretical potential?

The authors call for a theoretical understanding of the results obtained in order to create a mechanism for predicting the changing educational needs of students. It also seems natural that teachers are making increasingly loud statements, such as in Poland, about the need to change curricula at the state level (Bilas, 2021). The basis of the statements is the experience of the last distance year. "Online learning is exactly about new technologies and obtaining knowledge in a new format," the Ministry of Education and Science of Ukraine repeats (Stepko, 2021).

- The didactic theory should be changed in accordance with the humanity student need in distance learning. This measure will reduce the moral discomfort of students both during the pandemic and after its finished. This measure will also improve the quality of education (Maslow, 1954).

- As for student health in Ukraine, it is necessary to create new approaches to protecting the health of students. These approaches should not rely only on 100% distance learning of students in the context of the COVID-19 pandemic or new possible pandemics. At least, these ideas concern humanity students.

Is the number of respondents sufficient to make a decision?

The research methods used allow us to assume that the number of respondents is sufficient for making decisions and recommendations. For example, in paper (Shareefa et al., 2021) it was enough for 52 respondents to make decisions and recommendations. There were only 60 students in the sample in the paper (Hasanuddin et al., 2021). So, in our study, the 77 personal opinions were foundation for gained new scientific knowledge. At the same time, limitation of the study is a small number of specialties of the surveyed students. The number of the respondents allows us to get an overall picture. In the first approximation, statistical methods make it possible to extrapolate the obtained result to all humanity students of Ukraine. The result is highly statistically significant (99.0%). Therefore, we can make decisions with an accurate and predictable probability.

Conclusion

The aim of our empirical study is achieved. The authors have rejected the Null hypothesis. They have accepted the Alternative hypothesis. This means that the humanity student new needs in distance learning do not meet the state decisions of distance learning during COVID-19 Epidemic in Ukraine. The result is highly statistically significant (99.0%). The study has theoretical significance as a basis for understanding of the results obtained in order to create a mechanism for predicting the changing

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educational needs of students in distance learning. The experience of the last academic year shows that distance learning is exactly new technologies for obtaining knowledge in a new format. The didactic theory should be changed in accordance with the humanity student need in distance learning.

This study is helpful for other higher education institutions who use distance learning. The results obtained have important practical and social significance. And they allowed to formulate multi-level recommendations of distance learning in Ukraine. These recommendations lead to the student health care and the growth of the quality of higher education. Studying the student new educational needs in distance learning for technical and natural profiles is the aim of the next step of the study.

Recommendations

New knowledge is of practical importance and allows us to formulate multi-level recommendations related to distance learning during the COVID-19 pandemic in Ukraine:

1. Ukrainian universities should face to the new needs of humanity students in distance learning after the end of the pandemic:

- The amount of distance learning should be about 25% for the first-year humanity students. This decision meets their need in distance learning.

- The amount of distance learning should be from 25% to 45% for the senior and master humanity students. This decision meets their new need in distance learning.

- The didactic theory should be changed in accordance with the humanity student new need in distance learning.

2. The authority of Ukraine should look for other ways to protect public health in the student community during the COVID-19 pandemic in Ukraine.

3. The authority of Ukraine should abandon the state decisions of 100% distance learning, as the only correct solution. Ukrainian universities should use hybrid way of learning.

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