Motivation behind the Preference for Distance Education in Higher Education Students

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Abstract

Aim. The aim of the study is to investigate the motives of learning that are inherent in students with different attitudes to distance learning.

Methods. The study involved 211 students majoring in science (physics, chemistry). The study used the following methods: 1) attitude questionnaire; 2) Science Motivation Questionnaire II; 3) statistical methods. The following were used for statistical data processing: descriptive statistics methods (to measure the percentage of people with a different attitude towards the organisation of distance learning); ANOVA (to compare levels of science motivational types of students with different preferences in educational models).

Results. It was determined that 38% of students are positive about distance education and see great opportunities for its implementation. But only 22.75% of students consider distance learning to be the best option for educational process organisation, and 21.8% are in favour of an exclusive face-to-face format. The most popular form among students is a mixed form of education (55.45%). Students with a positive attitude to distance education are characterised by the highest scores on intrinsic motivation, self-efficacy and career motivation.

Conclusion. Distance forms of education cannot completely replace traditional ones. But it is already becoming obvious that their use in a mixed format can increase the effectiveness of the educational process. Students' support for the mixed format should be taken into account by the developers of educational programs and university administrations in order to improve the quality of education and meet the requirements of the times.

Key words: distance education, online learning, science motivation, students, personality development

Introduction

The last two years have led to huge changes in higher education around the world. Distance learning, which has existed for centuries as an auxiliary tool for acquiring knowledge and competencies (Clark, 2020), has taken a new role and significance during the pandemic. Although the first reactions to the need for distance education were sceptical and often negative (Unger & Meiran, 2020; Lister et al., 2020), now when the world is beginning to return to normal life we can observe that distant forms do not fade into the past (Milićević et al., 2021). A large number of teachers and students demonstrate willingness, or even a desire, to constantly use various forms of distance education in the educational space of higher education institutions (Zaborova & Markova, 2021).

As explanations of students' and teachers' sympathy to distance education, the following can be highlighted: convenience (no need to spend time commuting; more flexible planning of the day; the possibility to participate in classes from anywhere in the world); greater technological opportunities for teaching for institutions with a weak material base (the option to use presentations, show videos, discuss a text using only laptops); more active use of the latest technologies by teachers (the creation of infogra-

phics, videos and animations, the use of modern programs) (Pregowska et al., 2021). For a number of professional areas, the use of remote technologies does not create limitations; instead, new opportunities that would be strange to ignore emerge.

At the same time, the voices of critics of distance education are loud. The main disadvantages of this educational form are: the deprivation of social needs; low readiness of individual teachers to teach at a distance format and create educational materials whose design meets the requirements of online communication; the inability to qualitatively teach practice-oriented competencies of medical workers, chemists and others (Lamanauskas & Makarskaitė-Petkevičienė, 2021). Furthermore, a number of studies indicate that during distance learning students develop laziness and unwillingness to work on their professional development, which negatively affects their knowledge and grades (Aldrou, 2021; Alomyan, 2021; Namli & Samioğlu, 2021), and all the support for the remote format stems from the desire to continue a relaxed life for pleasure.

There can be no single answer as to the benefits or harms of distance learning. Each educational program does not exist in a vacuum, but in a social and cultural context with its own material advantages and disadvantages. The decision to use different forms of distance education should also be made in a specific curriculum, in a specific institution and in a specific country. Another interesting question is: should students' opinions be taken into account when making such a decision? What is the motivation behind their likes and dislikes of remote forms? Students are one of the most important stakeholders in higher education and it is very important to understand what they are guided by when they want to study remotely or stay face-to-face.

Aim of the Research

The aim of the study is to investigate the motives of learning that are inherent in students with different attitudes to distance learning. The main objectives of the study are as follows:

- to analyse the attitude to different forms of distance learning of students of higher education institutions;
- to investigate the main forms of scientific motivation of students of higher education institutions;
- to compare how the scientific motivation of students with different attitudes to distance learning differs.

Methods

The study was held in September-October 2021 at the National Technical University "Kharkiv Polytechnic Institute". The study involved 211

students majoring in science (physics, chemistry). The main criteria for selecting students to participate in the study were: 1) 3-4 years of study; 2) learning experience in different formats (distance, face-to-face, mixed). The study sample included 110 men (mean age 20.7±1.1) and 101 women (mean age 20.5±1.2). The study was conducted in the form of an online survey, which allowed students to answer questions in a relaxed atmosphere and not feel any psychological pressure from the educational institution or teachers.

At the first stage of the study, applicants were asked to answer the questionnaire which, in addition to demographic information, contained three main questions:

1. How can you describe your attitude to distance education? Answer options: positive, negative, neutral.
2. Which form of education do you think is the most effective in terms of your professional development? Answer options: distance, face-to--face, mixed.
3. Who should decide on the form of study on the course? Answer options: administration of higher education institution; teacher; students.

The third question deliberately did not provide for the option of "joint decision of the administration, teacher and students" to determine exactly how students see their role in the educational process and whether they are willing to take responsibility for decisions.

According to the results of this stage of the study, the percentage of student preferences for distance education was generalised.

In the second phase of the study, Science Motivation Questionnaire II (Glynn et al., 2011) (alpha from 0.72 to 0.76) was used to determine the leading scientific motives of students, including: intrinsic motivation, self--determination, self-efficacy, career motivation, and grade motivation.

At the third stage of the study, ANOVA was performed to identify the leading types of motivation among: 1) students with different attitudes to distance learning; 2) students with different attitudes to the effectiveness of forms of educational process; 3) students with different attitudes to who should decide on the form of education.

Research Results

On the basis of the results of the first stage of the study, the features of students' attitude to distance education were determined (Fig. 1).

It turned out that 38% of students were positive about distance education and saw great opportunities for its implementation. During the interviews on the reasons for sympathy for distance education, students most often mentioned: the option to freely plan a day, no need to spend time on commuting, more comfortable learning conditions. 26% of students expressed a very negative attitude towards distance education. As explanations

for this attitude, they cited the following: the lack of social contacts and feelings of loneliness, the lack of live interaction, lower requirements for the assessment process and poorer feedback from the teacher. Another 36% of students noted their attitude to distance education as neutral. They stressed that each form of learning had its benefits and both distance and face-to--face learning had their advantages and disadvantages.

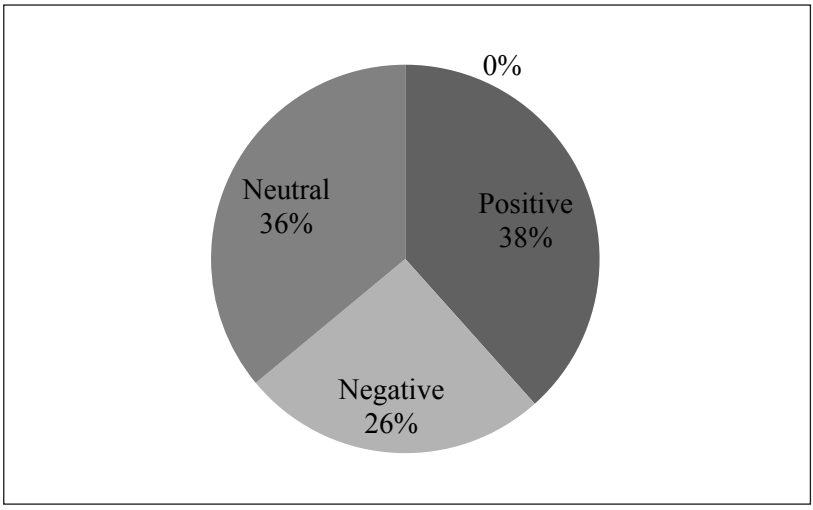

Fig. 1
Distribution of Students According to Their Attitude to Distance Education

Source: own research.

Table 1 shows the distribution of students according to their sympathies for different forms of learning. According to the results of the survey, only 22.75% of students consider distance learning the best option, and 21.8% are in favour of an exclusive face-to-face format. The most numerous was the group of students advocating a mixed form of education – 55.45%. Students in this group noted that a well-organised mixed learning form would allow them to take the best of both formats and, by combining flexibility and efficiency, provide an individual approach to learning.

Table 1
Distribution of Students According to Their Sympathies for Different Forms of Learning

	Face-to-face	Distance	Mixed
Percentage of Respondents (%)	21.8	22.75	55.45

Source: own research.

Table 2 shows the results of a survey of students regarding the decision on the form of education. 19.9% of students believe that the decision on the

form of education should be made by the representatives of the administration of the institution. They insist that effective learning management can be ensured only if all representatives of the institution follow the same rules. 33.65% of students believe that they themselves should decide on the form of education in accordance with the development of their individual trajectory. 46.45% of students believe that the decision on the form of education should be made by the teacher, based on the objectives of the course and their own abilities in distance learning.

Table 2
Distribution of Students According to Their Attitude to the Decision on the Form of Education

	Administration	Teacher	Students
Percentage of Respondents (%)	19.9	46.45	33.65

Source: own research.

After the survey, all students took the Science Motivation Questionnaire II. The results of this questionnaire were analysed using ANOVA by subgroups of students with different attitudes to distance learning (Tables 3-5).

Table 3
Differences in the Expression of Types of Scientific Motivation of Students with Different Attitudes to Distance Education

Type of science motivation	$M\pm\sigma$			F
	Positive attitude	Negative attitude	Neutral attitude	
Intrinsic motivation	15.13±0.4	14.6±0.5	13.30±0.62	285.24**
Self-determination	14.25±0.5	14.75±0.5	14.54±0.12	13.99**
Self-efficacy	16.23±0.47	12.31±0.5	14.29±0.61	1475.48**
Career motivation	14.14±0.4	13.2±0.45	13.43±0.06	107.16**
Grade motivation	13.85±0.04	15.1±0.03	17.07±0.03	1693.71**

Note: Significance level: $p \leq 0.01$.

Source: own research.

The analysis of the data in Table 3 indicates that students with a positive attitude to distance education are characterised by the highest scores on intrinsic motivation, self-efficacy and career motivation. Therefore, the proponents of distance education are mostly students who have a good understanding of their own goals and learning needs, plan their career advancement, and are well-organised in terms of educational and professional development.

Students with a negative attitude towards distance learning are characterised by the highest scores on the self-determination scale. Students in

this group are motivated by the possibility to control all learning processes. Their negative attitude to distance learning can be explained by the loss of control, no possibility to ask additional questions, clarify, get the opportunity to explain their opinion, etc.

Students with a neutral attitude to distance learning showed the highest scores on the scale of grade motivation. Their goal is to get a positive mark, so they are ready to be flexible and learn under any circumstances.

Table 4

Differences in the Expression of Types of Scientific Motivation of Students with Different Preferences Regarding the Form of Organisation of Education

Type of science motivation	*M*±σ			*F.*
	Face-to-face	Distance	Mixed	
Intrinsic motivation	15±0.01	15.21±0.06	13.93±0.07	100.91**
Self-determination	14±0.01	15.08±0.1	14.48±0.04	52.65**
Self-efficacy	15.11±0.1	13.66±0.27	12.95±0.25	40.80**
Career motivation	13.78±0.06	14.22±0.06	13.27±0.04	86.78**
Grade motivation	13.97±0.02	14.37±0.13	15.95±0.1	95.57**

Note: Significance level: p≤0.01.

Source: own research.

Students who consider face-to-face education to be the best form are characterised by a high level of intrinsic motivation and self-efficacy. These students have a good understanding of their educational goals and need control over the educational process. Intrinsic motivation, self-determination and career motivation are inherent in the students who consider distance learning to be the most effective. Students who prefer a mixed form of learning are characterised by grade motivation. Thus, we can state that the motivation of students with different opinions on the effectiveness of learning formats corresponds to the attitude to distance learning as such.

Table 5

Differences in the Expression of Types of Scientific Motivation of Students with Different Attitudes to the Decision on the Form of Organisation of Education

Type of science motivation	*M*±σ			*F.*
	Administration	Teacher	Students	
Intrinsic motivation	13.77±0.08	14.66±0.07	15.11±0.05	62.42**
Self-determination	14.19±0.06	14.45±0.07	14.70±0.06	11.47**
Self-efficacy	12.57±0.21	14.72±0.17	14.78±0.14	34.55**
Career motivation	13.32±0.06	14.19±0.07	13.55±0.05	40.36**
Grade motivation	16.18±0.13	14.75±0.1	14.40±0.14	50.20**

Note: Significance level: p≤0.01.

Source: own research.

Grade motivation prevails among students who believe that the choice of study format should be made by the administration. Students in this group primarily seek positive grades, and it seems to them that such grades can be obtained in a system of rules clearly defined by the administration. In situations where teachers or students decide to change the format of education, they see a threat to a positive assessment of their knowledge.

Career motivation prevails in students who believe that the decision on the format of education should be made by the teacher. In their desire to build a successful career, they tend to trust their competent teachers, in order to determine the most optimal format of education based on the goals and objectives of a particular discipline.

Intrinsic motivation, self-determination and self-efficacy predominate among students who believe that decisions about the format of study should be made independently. These are students who have a good understanding of their own goals, keep their studies under control and are ready to take responsibility for their choices.

Conclusions and Discussions

This study does not answer all the questions about distance education and the opportunities it creates in modern higher education institutions, but it provides a deeper understanding of the motivation of the most important stakeholders in the educational process – students – to choose the form of education. The motivation for distance learning has been studied by scientists for a long time, but most research in the last two decades has been related to MOOCs and supporting forms of learning (Knowles & Kerkman, 2007) and does not reflect the issues of distance education today.

The data obtained in our study indicate that among students there is a fairly large group of distance education sympathizers, which is confirmed by other studies in this area (Zeigler, 2021). These students saw and appreciated the opportunities for free time planning, learning more courses, and combining learning and practical activities. An analysis of the motivational profiles of distance education sympathizers indicates that these are not lazy students who are looking for the easiest way to get a grade. On the contrary, they are students with strong intrinsic motivation, well-defined career and professional orientations. They understand all the limitations and benefits of distance education and would rather focus their efforts on minimizing them than on a full transition to a face-to-face learning format.

Also, the results of a study of students' willingness to take responsibility for choosing the form of education were interesting. About a third of students feel that they would like to directly influence the choice of form of education and not transfer this right to other stakeholders in the educa-

tional process. These data make us think about the importance of introducing flexible individual plans for such students, which would allow them to build an individual educational trajectory.

It is important to stress the fact that the vast majority of students noted the mixed model of learning as the most effective. More than half of those surveyed in the last two years have realised that remote technologies create many opportunities that should not be overlooked. As noted by modern researchers in the field of pedagogical science after the end of the pandemic, higher education institutions should integrate the experience of distance education and intensify the use of modern technologies in the educational process (Kobylarek, 2021). Today, institutions need to think about how to maximise the efficiency of remote technologies, make them more individualised and such that will take into account the personal characteristics of stakeholders in the educational process (Pidbutska et al., 2021).

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