

**THE HUMANITIES IN A TECHNICAL UNIVERSITY: FROM THE TRANSFER OF
KNOWLEDGE TO THE FORMATION OF AN EDUCATIONAL AND
HUMANITARIAN SPACE**

***AS HUMANIDADES EM UMA UNIVERSIDADE TÉCNICA: DA TRANSFERÊNCIA
DE CONHECIMENTO À FORMAÇÃO DE UM ESPAÇO EDUCACIONAL E
HUMANITÁRIO***

***LAS HUMANIDADES EN UNA UNIVERSIDAD TÉCNICA: DE LA TRANSFERENCIA
DE CONOCIMIENTOS A LA FORMACIÓN DE UN ESPACIO EDUCATIVO Y
HUMANITARIO***



Yulia Lobanova¹
e-mail: y.v.lobanova@mospolytech.ru

Elena Panova²
e-mail: panova_ep@mail.ru

Elena Khripunova³
e-mail: elytsa@mail.ru

Marina Solovyanova⁴
e-mail: solo_sks@mail.ru

Albina Minakhmetova⁵
e-mail: minah_alb@mail.ru

Pavel Zhuravlev⁶
e-mail: poltarykhin@mail.ru

How to reference this article:

LOBANOVA, Y.; PANOVA, E.; KHRIPUNOVA, E.; SOLOVYANOVA, M.; MINAKHMETOVA, A.; ZHURAVLEV, P. The humanities in a technical university: From the transfer of knowledge to the formation of an educational and humanitarian space. *Revista on-line de Política e Gestão Educacional*, Araraquara, v. 27, n. 00, e023022, 2023. e-ISSN: 1519-9029. DOI: <https://doi.org/10.22633/rpge.v27i00.18060>



| **Submitted:** 18/10/2022

| **Required revisions:** 27/12/2022

| **Approved:** 20/02/2023

| **Published:** 15/05/2023

Editor: Prof. Dr. Sebastião de Souza Lemes

Deputy Executive Editor: Prof. Dr. José Anderson Santos Cruz

¹ Moscow Polytechnic University (MOSPOLYTECH), Moscow – Russia. Candidate of Philosophical Science.

² Moscow Polytechnic University (MOSPOLYTECH), Moscow – Russia. PhD in Philology, Associate Professor of the Department “Humanitarian Disciplines”, Faculty of Basic Competences.

³ Volgograd State Technical University (VSTU), Volgograd – Russia. PhD in Philology Science, Department of Russian language.

⁴ Southwest State University (SWSU), Kursk – Russia. Candidate of Historical Sciences, Associate Professor.

⁵ Kazan Federal University (KPFU), Yelabuga – Russia. Candidate of Psychological Sciences, Associate Professor.

⁶ Plekhanov Russian University of Economics (PRUE), Moscow – Russia. PhD in Economics, Professor.

ABSTRACT: Nowadays, specialists must be alert in multicultural environments, able to realize and fulfill their creative potential, and constantly learn new skills. Recently, excessive specialization in education has led to a decrease in time spent teaching subjects of the social and humanitarian cycle. The article analyzes the motivation of students of technical specialties to study the humanities and the transformation of this motivation in various courses. To that aim, an empirical study was conducted based on the Moscow Polytechnic Institute. The research sample consisted of students of the Moscow Polytechnic Institute studying at two faculties – chemical technology and information technology. Considering the results, educators of the humanities should not only impart knowledge, but also set humanitarian, and cultural standards that encourage dialogue, not monologue, tolerance, conducting a historical and ethical analysis of a situation, and developing effective solutions that do not conflict with humanistic principles.

KEYWORDS: Humanities. Motivation. Education. Personality formation.

RESUMO: *Hoje em dia, os especialistas devem estar atentos em ambientes multiculturais, capazes de realizar o seu potencial criativo, e aprender constantemente novas habilidades. Recentemente, a especialização excessiva na educação levou a uma diminuição do tempo dedicado ao ensino de disciplinas do ciclo social e humanitário. O artigo analisa a motivação dos alunos das especialidades técnicas para cursar as humanidades e a transformação dessa motivação em diversos cursos. Para tanto, foi realizado um estudo empírico com base no Instituto Politécnico de Moscou. A amostra da pesquisa consistiu em alunos do Instituto Politécnico de Moscou que estudam em duas faculdades – tecnologia química e tecnologia da informação. Considerando os resultados, os educadores de humanidades devem não apenas transmitir conhecimento, mas também estabelecer padrões humanitários e culturais que estimulem o diálogo, não o monólogo, a tolerância, realizando uma análise histórica e ética de uma situação e desenvolvendo soluções efetivas que não conflitem com princípios humanísticos.*

PALAVRAS-CHAVE: Humanidades. Motivação. Educação. Formação da personalidade.

RESUMEN: *Hoy en día, los especialistas deben estar alerta en entornos multiculturales, capaces de realizar y desarrollar su potencial creativo y aprender constantemente nuevas habilidades. Recientemente, la excesiva especialización en la educación ha llevado a una disminución del tiempo dedicado a la enseñanza de materias del ciclo social y humanitario. El artículo analiza la motivación de los estudiantes de especialidades técnicas para estudiar humanidades y la transformación de esta motivación en diversos cursos. Para ello, se realizó un estudio empírico basado en el Instituto Politécnico de Moscú. La muestra de investigación consistió en estudiantes del Instituto Politécnico de Moscú que estudian en dos facultades: tecnología química y tecnología de la información. Teniendo en cuenta los resultados, los educadores de humanidades no solo deben impartir conocimientos, sino también establecer estándares humanitarios y culturales que fomenten el diálogo, no el monólogo, la tolerancia, realizar un análisis histórico y ético de una situación y desarrollar soluciones efectivas que no entren en conflicto con principios humanistas.*

PALABRAS CLAVE: Humanidades. Motivación. Educación. Formación de la personalidad.

Introduction

It is impossible to overestimate the importance of humanitarian knowledge in the formation of a harmonious personality, and, accordingly, a developed society. Most specialists understand the importance of teaching the humanities (philosophy, history, ethics, sociology, cultural studies, culture of speech and business communication, etc.) in universities that train technical specialists (BORODINA *et al.*, 2019; HONEGGER, 2020).

Now that a teenager while studying in high school concentrates on the disciplines chosen for university admission, that a young specialist after university spends all their strength on building a career, on promoting their expertise in a chosen narrow field, a student seems to fall out of the process of full-fledged cultural development. Therefore, the formation of a cultural and humanistic basis in the university becomes especially important (KORABLEVA *et al.*, 2020).

Although teaching of the humanities in technical universities of Russia is mandatory according to the federal state standards of higher education, the standards are constantly being reviewed, and quite often there is talk of reducing the list of disciplines of liberal arts curriculum, respectively, the curricula of technical universities undergo removal of the humanitarians.

In recent years, in most technical universities, the number of hours of the humanitarian block has been reduced to a minimum, philosophy is taught within 72 hours, history within 72 hours, and communications disciplines within 72 hours. The remaining subjects, such as sociology, political science, cultural studies, ethics, etc., have remained only in the departments of liberal arts. But even they experience a constant decrease in the number of hours due to the combination of disciplines (for example, integrated courses “sociology and political science” are taught, only 72 hours).

This year, the Ministry of Education and Science of the Russian Federation plans to introduce a common format for universities in terms of teaching the discipline "History of Russia" (144 hours), which is undoubtedly the right decision. But, unfortunately, the addition of two credits to history will be done at the expense of withdrawing these hours from the liberal arts curriculum (POGOSYAN, 2017; 2021). Thus, in most technical areas of training, subjects related to culture, communication, the Russian language, culture of speech, psychology, and ethics, which contributed to the formation of skills in public speech, discussion and debate, the ability to logically and correctly build oral and written speech, the competence of communication in oral and written forms in terms of solving problems in interpersonal and

intercultural interaction will disappear (ISAIKINA *et al.*, 2021; KAYUMOVA *et al.*, 2019; MEDVEDEV; MITINA, 2021).

One of the common stereotypes is the idea that the thinking of a person engaged in humanities is chaotic and illogical, in contrast to the consciousness of the one who does sciences (although it is impeccable logic that allows you to successfully understand, for example, linguistics. Besides, logic itself is a philosophical discipline created by Aristotle). Not surprisingly, students often come to a technical university with the conviction that they “need” only subjects in their chosen specialty (IVYGINA *et al.*, 2019; KEEFER; HAJ-BROUSSARD, 2020). The future mining engineer, power engineer, information technology specialist on the while is ready to study not only specialized subjects, but general physical and mathematical disciplines, however, they are already skeptical about philosophy, history, cultural studies, intercultural communication: they “distract” from their learning aim.

Unfortunately, the small number of hours allocated for humanities does not allow him or her to understand why they need to know the details of the history of the Time of Troubles, the peculiarities of the view of man in the Enlightenment, communication “barriers”, etc. “To pass and forget” – this is the principle of dealing with liberal arts disciplines by students. As a result, the system of humanitarian knowledge and ideas of a significant part of technical specialists remains at the level of about Year 9 (undoubtedly, it is transformed on the basis of empirical experience, but is not subjected to meaningful and purposeful development).

Literature Review

Over the past few years there have been heated discussions around this problem, its urgency is increasing, affecting, in fact, all sectors of society, from students, their parents and teachers, to all of us involved in the professional activities and social life of yesterday's university graduates (BALGANOVA, 2021; DONOHUE, 2020).

Dramatic controversy has unfolded on the pages of the journal “Higher Education in Russia” and other publications. It was attended by such researchers as Bezgodov *et al.* (2018), S. V. Shilova (2018), Guseva (2019), M. I. Panfilova (2019), Ivakhnenko and Kuznetsova (2022), Kuznetsova (2020). In the works of such researchers as Otts *et al.* (2021), Saenko (2021) and others, one can find relevant research and proposals related to the problems and findings in the field of modernization of higher education, new educational forms and the

current meaning of liberal arts at the university. Issues related to student motivation have been addressed by authors such as Korotkevich (2019), Kosacheva (2022), Milovanova *et al.* (2022).

Research Methods

A study to collect empirical data was conducted on the basis of the Moscow Polytechnic Institute. The research sample consisted of students of the Moscow Polytechnic Institute studying at two faculties – chemical technology and information technology.

The research has been conducted among students of the 1st, 2nd and 4th courses who study the disciplines of the humanities cycle. Due to the fact that in recent years the curricula for the areas of training of respondents have undergone changes, it turned out that students of the Faculty of Information Technology study the humanities in the 2nd and 4th year (sets of different years of study), and students of the Faculty of Chemical Technology and Biotechnology – in the 1st and 4 courses.

The study is based on the opinion that the motivation of learning and effectiveness of teaching the humanities in junior and senior courses have a number of significant differences. The study was conducted in autumn 2022. In our opinion, maintaining a high level of motivation among students and interest in the discipline being taught is one of the main tasks of education. Understanding the need for the information received and an emotional assessment of the learning process are also important.

Therefore, to assess the effectiveness of training, the following criteria were introduced:

- interest in the disciplines taught in the humanities;
- satisfaction with the learning process;
- preferences in the format of conducting classes;
- assessment of the usefulness of the information received.

The study of taught disciplines and forms of classes involves the utilization of several research methods and scientific general philosophical principles, including synthesis and analysis, systemic, analogy, deduction and induction, dialectical, comparison, functional and structural methods, and also value-semantic, competency-based and other approaches, allowing describing the trends and realities of contemporary higher education.

The study was conducted a survey form (expert survey and questionnaire) with subsequent processing of the results by conventional approaches of mathematical and statistical data processing (Student's t-test).

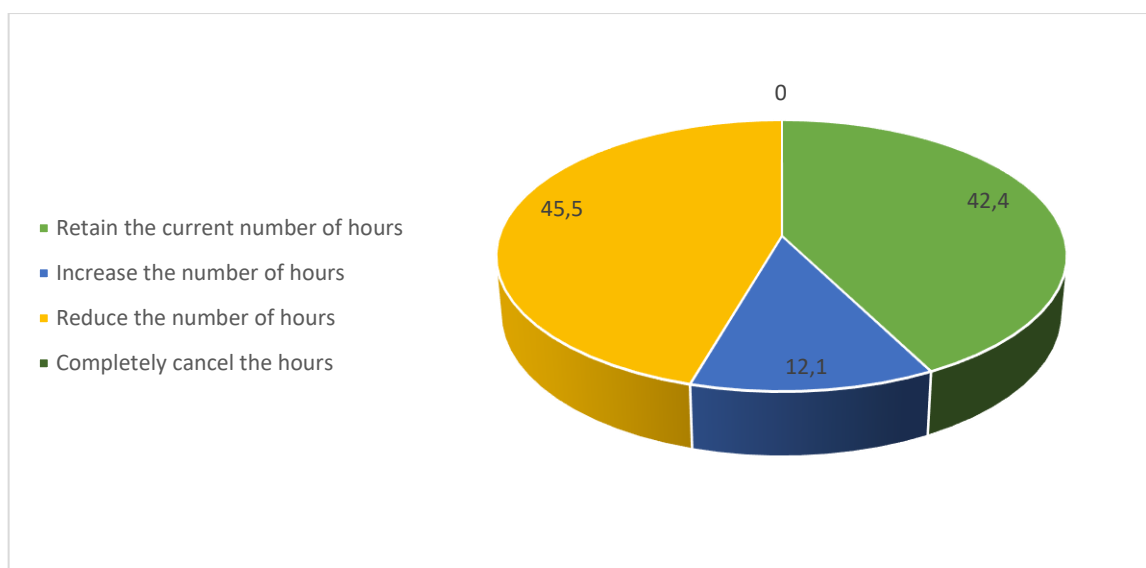
Results and Discussion

The surveys conducted among students of the Moscow Polytechnic Institute showed that the majority of students enrolled in the first year of the university take the need to study the humanities without enthusiasm, but they still have a request for the development of humanitarian knowledge, provided that a significant part of this knowledge will be delivered to them in interactive formats, i.e., in the form of discussions, games, etc.

Former schoolchildren welcome the process of including game elements in the learning process. There is no idea of abandoning the humanities. Although many students would like to reduce the number of “humanitarian” hours, there is also a numerous number of undergraduates who would like to devote more time to studying history, philosophy, etc.

Thus, 42.4% of first-year students believe that the number of hours allocated for the development of humanities should be retained, and 45.5% of the respondents consider that they should be reduced. Some students (12,1%) say that they would like to increase the number of hours. Nobody speaks about abolishing the humanities, although one of the options in the survey suggests such a possibility (Fig. 1).

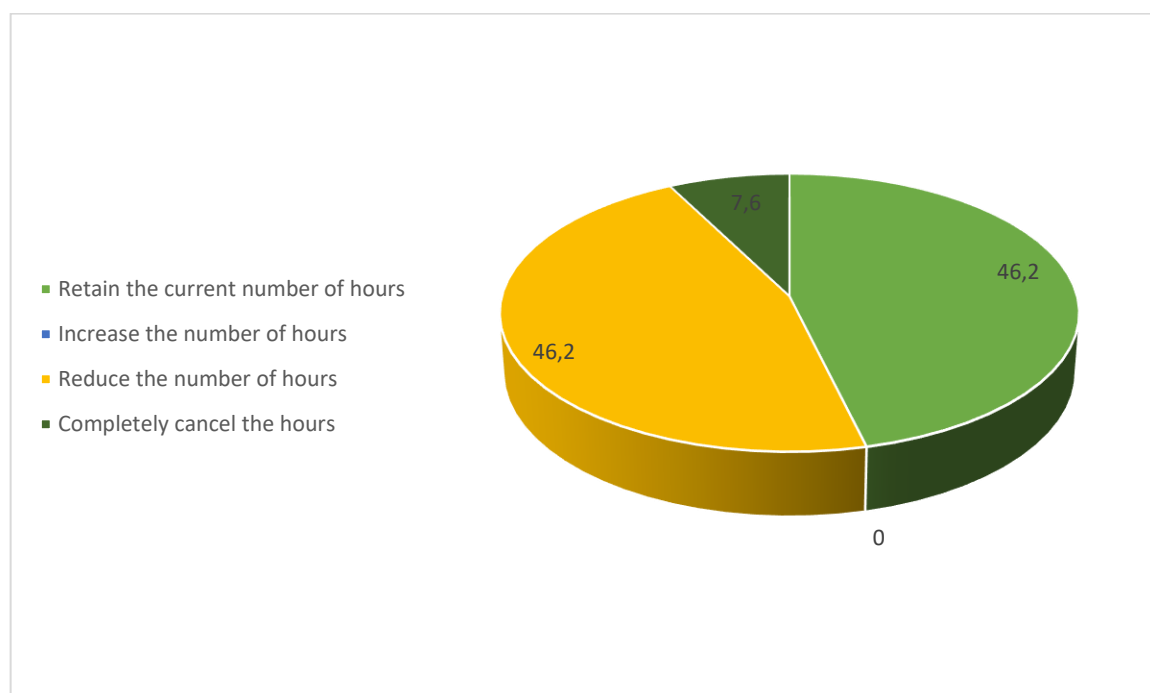
Figure 1 - Distribution diagram of 1st year students' answers to the question “If you were the Minister of Education, would you recommend for future technical specialists ... allocated to the humanities?”



Source: Devised by the authors

By the fourth year, up to 46.2% of students are ready to “cancel” teaching the humanities (Fig. 2). There are practically no people who want to increase the number of hours for studying such disciplines.

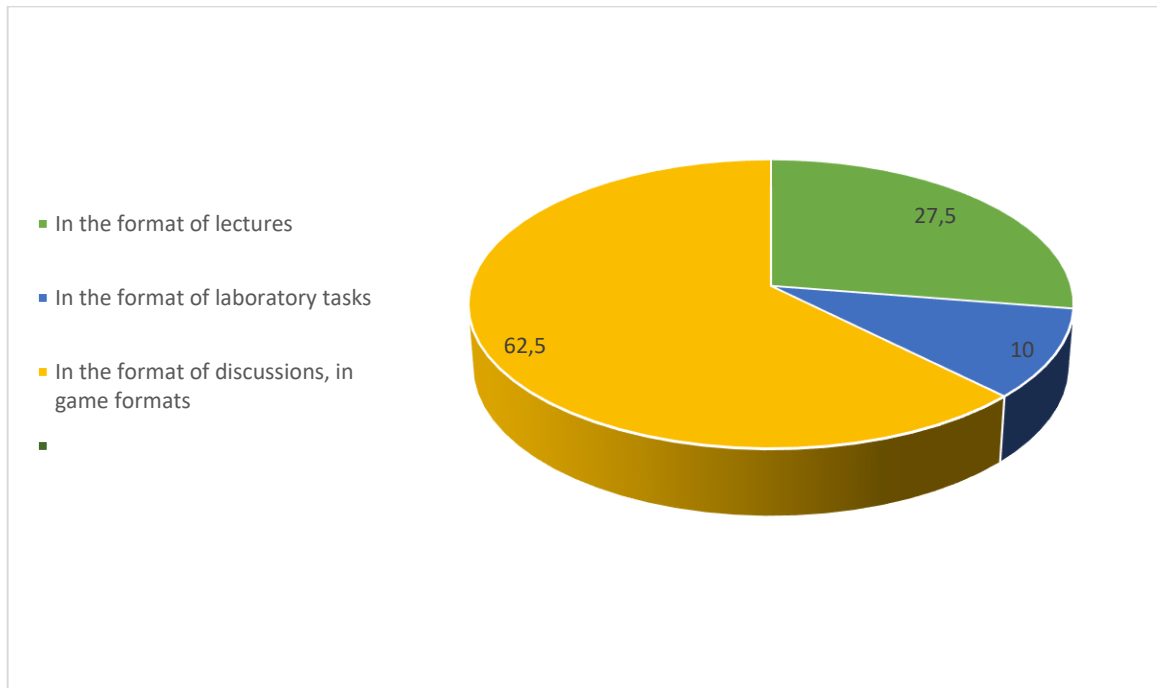
Figure 2 - Distribution diagram of 4th year students' answers to the question "If you were the Minister of Education, would you recommend for future technical specialists ... allocated to the humanities?"



Source: Devised by the authors

First-year students prefer interactive classes (Fig. 3), by the second year the number of those who prefer interactive somewhat decreases (Fig. 4).

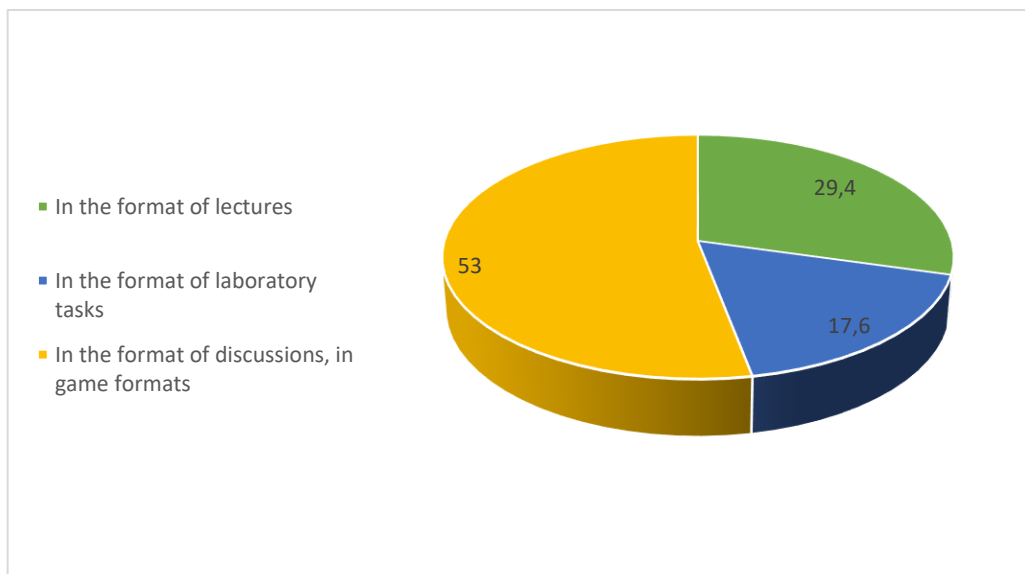
Figure 3 - Diagram of the distribution of answers of 1st year students to the question about the preferred forms of conducting classes in the humanities



Source: Devised by the authors

By the 4th year, the demand for interactive teaching in the humanities decreases (Fig. 5), that is, students began to gravitate towards work that requires less their involvement, preferring lectures rather than discussions and practical tasks.

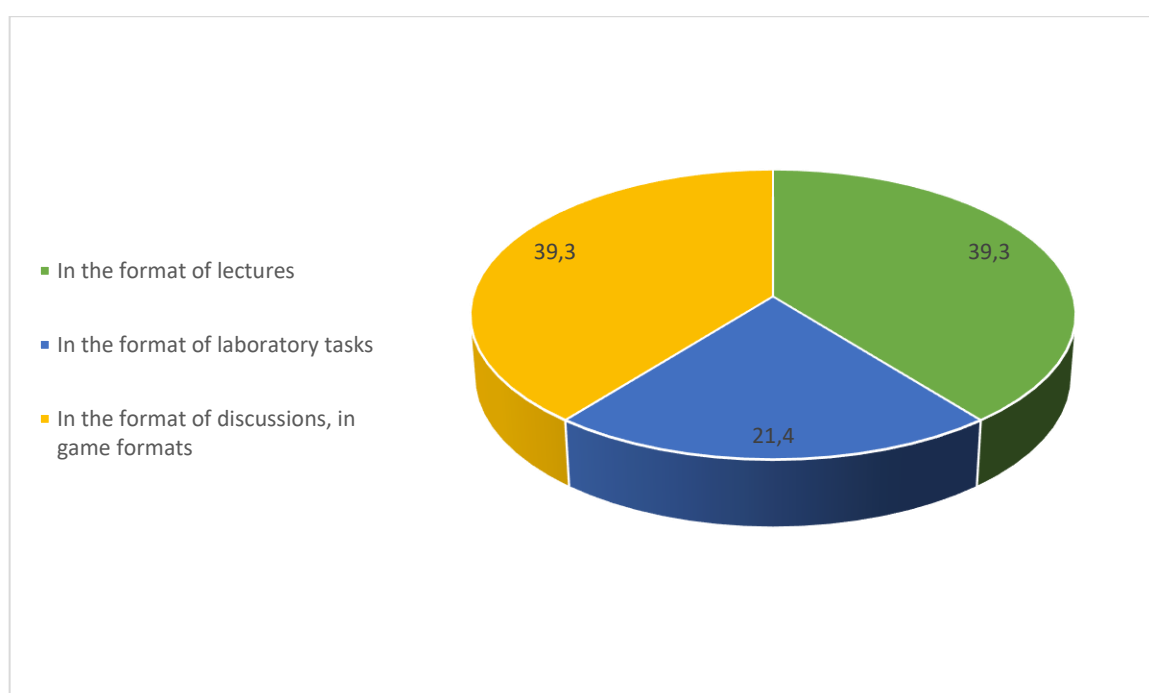
Figure 4 - Diagram of the distribution of answers of 2nd year students to the question about the preferred forms of conducting classes in the humanities



Source: Devised by the authors

It can be assumed that this is due to two factors: senior students are preparing for the defense of their thesis and consider the humanities superfluous and time-consuming, or these are just the students who, during the pandemic years, got used to distance learning with restrictions, and it is difficult for them to get engaged into interactive classes that involve emotional respond, constant feedback, etc.

Figure 5 - Distribution diagram of 4th year students' answers to the question about the preferred forms of conducting classes in the humanities

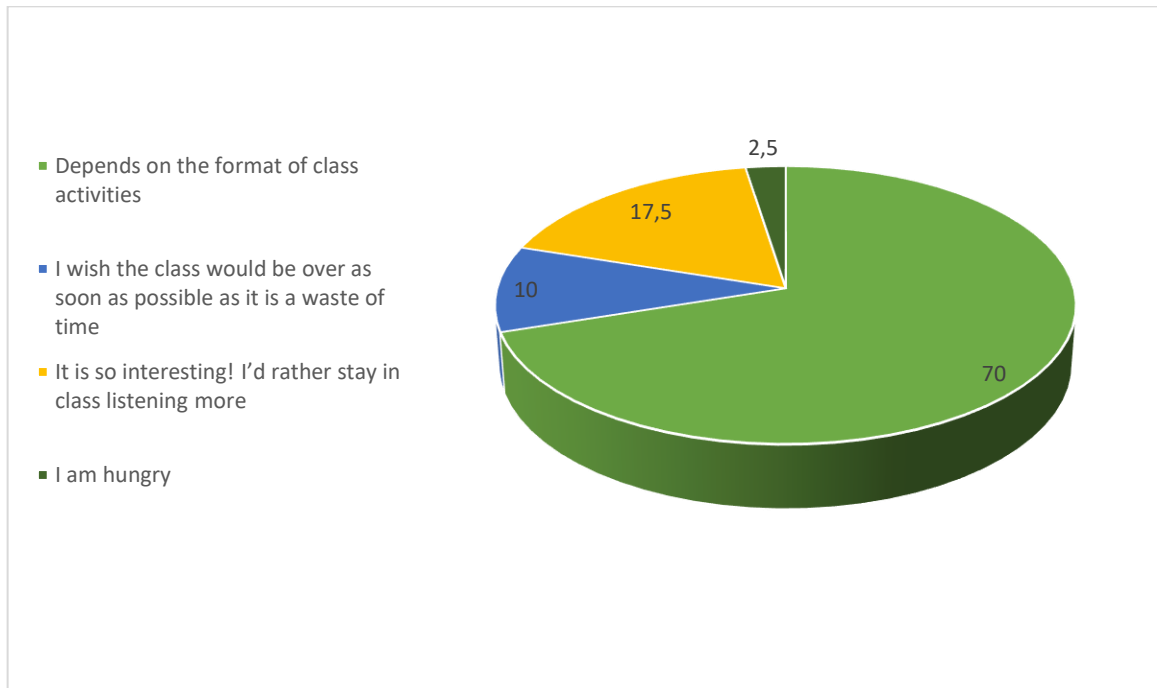


Source: Devised by the authors

At the same time, less than one-fifth of the surveyed fourth-year students and less than 4% of the first-year students consider philosophy, ethics of business communication and history useless. Consequently, students understand that they need these disciplines.

An optimistic forecast is made possible by the following facts.

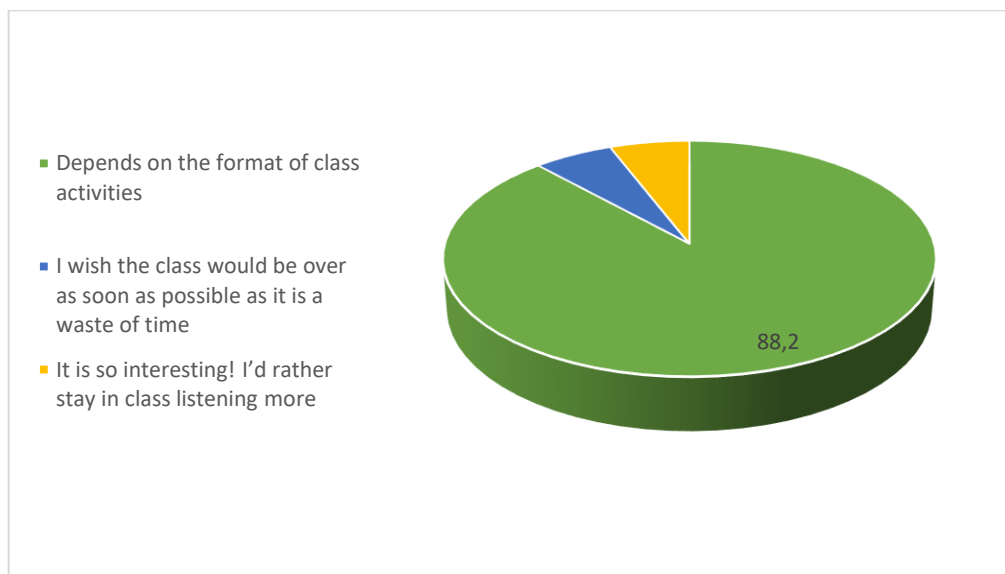
Figure 6 - Distribution diagram of 1st year students' answers to the question “What do you mostly think about during classes in the humanities?”



Source: Devised by the authors

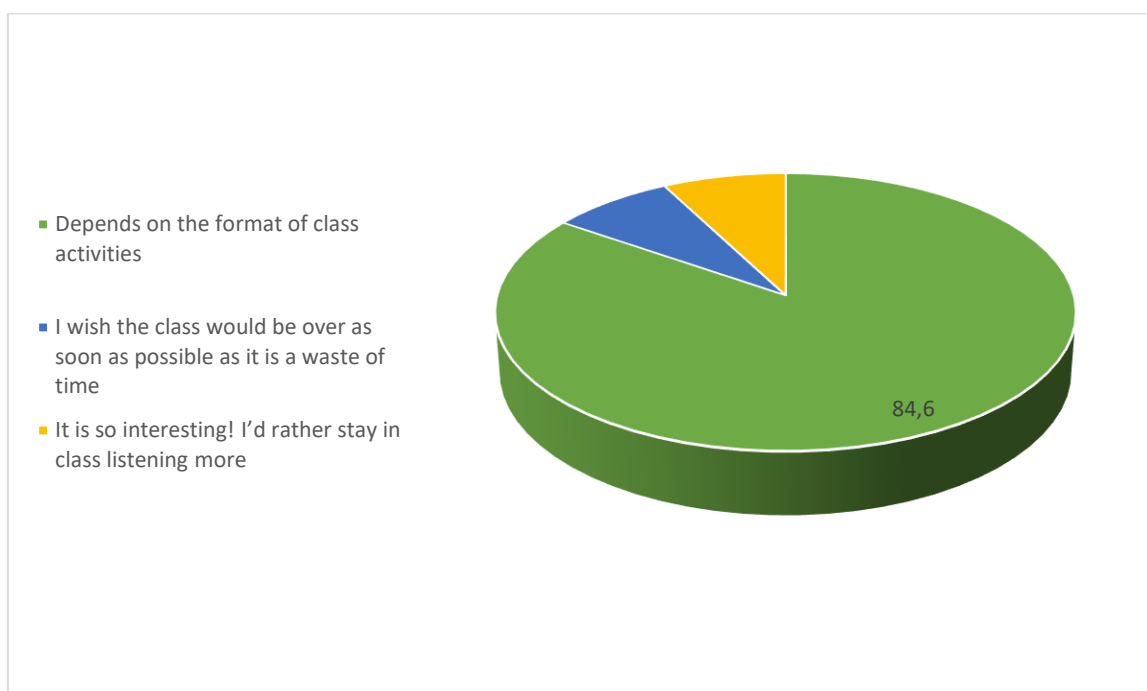
Firstly, students of all courses are open to change, and their attitude to a particular discipline within the humanities depends, first of all, on the quality, including methodology, of teaching (Fig. 6 - 8).

Figure 7 - Distribution diagram of 2nd year students' answers to the question “What do you mostly think about during classes in the humanities?”



Source: Devised by the authors

Figure 8 - Distribution diagram of 4th year students' answers to the question “What do you mostly think about during classes in the humanities?”



Source: Devised by the authors

Secondly, the survey showed that one way or another, many students understand what a humanitarian standard is, they can and want to comprehend this topic.

Thirdly, there are no situations (at least in the Moscow Polytechnic Institute) that a student is interested in a subject, but there are problems with passing this discipline.

Thus, there is a clear need to transform the teaching of the humanities at the university.

Conclusion

1. Considerable attention should be paid to goal-setting and awareness in the study of the humanities: each student must have a complete understanding of why they study a particular discipline within liberal arts curriculum, how this study affects their humanitarian patterns, their freedom and responsibility both as an individual and a citizen, and as a member of a certain cultural community, and as a member of a professional community.

2. Students and teachers should be aware that the study of the humanities develops critical thinking, which is so necessary for every representative of the intellectual profession (and in our time, with its “polyphony”, endless pluralism and the ability to convey one’s opinion to others, to any person). And it is teachers of the humanities, especially philosophy and history,

who can clearly demonstrate both the need for such thinking and the methods for its development. The formation and development of precisely the critical thinking of students, their awareness, the ability to recognize lies, propaganda, manipulation of consciousness is the task of teachers of the humanities.

3. In addition, teachers of the humanities should not only transfer knowledge, but set the very humanitarian, cultural standards that require dialogue, not a monologue, tolerance, the ability to conduct a historical and ethical analysis of a particular situation, teach them to develop effective solutions that will not contradict humanistic principles. A university teacher of the humanities should not “lecture”, “broadcast” from the department and even “introduce elements of interactivity”, they should create and set the humanitarian and cultural space. And they can't shift the responsibility onto their colleagues, teaching sciences. Teaching here should not be based on the principle of a monologue. Together with students, teachers create a humanitarian and cultural space and are themselves shaped by this space. Such concepts as dialogue, ethical attitude towards others, freedom and responsibility are becoming cornerstones. Diverse principles for this can be found in the philosophy of dialogue in the works of M. Bakhtin, Yu. Lotman, M. Buber, E. Levinas, O. Rosenstock-Hussy, the works of religious Russian philosophers (LOBANOVA; BAZHENOVA, 2018). Dialogism tries to connect ontology, epistemology and ethics, human being, cognition and self-cognition with morality and reminds us that all exact, technical sciences were born from philosophy as a way of knowing the world (and, one might say, being in the world as cognition and self-cognition).

4. This humanitarian space needs to be formed taking into account the fact that students spend 6-8 hours a day online, use a variety of platforms (for communication, entertainment, searching for information, etc.). The lifestyle of a young person is a synthesis of real and virtual communications.

Clearly, all this will require both the development of the teachers themselves and an increase in the number of hours allocated in a technical university for the study of the humanities. Discussions about new meanings, forms and methods of teaching have been going on for years. By that moment, it is possible to realize, on the one hand, “the crisis of the meaning of teaching the humanities in the context of a crisis of a more general order, which is due to the current socio-cultural changes, as well as the increasingly tangible counter productiveness of the existing educational forms”. On the other hand, despite all the problems in education, the controversy of certain concepts, methods, approaches, and opportunities the role of the teacher's

personality has always saved us and continues to save. As E. N. Ivakhnenko, N. I. Kuznetsova rightly write,

the personal “echo” of a teacher sometimes lasts more than a century, and other professionals can hardly boast of such a period. It has been noticed that the influence of a teacher not only affects his immediate students, but also affects the upbringing of their children, partly even grandchildren: this is how this longevity develops. Even the rapid dynamics of the current century have not canceled this amazing phenomenon (IVAKHNENKO; KUZNETSOVA, 2022).

Accordingly, the pedagogical transformation is time consuming, but the historical challenge requires starting right now, without delay, and awareness of the role of the teacher's personality determines both optimism and responsibility of each teacher.

Questions for further research:

1. How different is the perception of the need to study the humanities by students of I-II and V courses of technical universities?
2. How involved are students in learning in terms of practical participation in the study of the humanities?
3. What forms of mastering the humanities allow you to keep students motivated?

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Processing and editing: Editora Ibero-Americana de Educação.
Proofreading, formatting, normalization and translation.

