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КОММУНИКАТИВИСТИКА И ОБРАЗОВАНИЕ

Научно-этические принципы как основа подготовки специалиста по медиакомммуникациям в цифровую эпоху

Scientific and Ethical Principles as a Basis for the Training of a Media Communication Specialist in the Digital Age

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Аннотация
Статья нацелена на анализ способов влияния цифровой научной этики на развитие личности специалиста по медиа-коммуникациям с учётом уточнения характеристик этики (общей, научной и цифровой), коммуникации (общей, медиа-коммуникации и цифровой), а также соотношения понятий «учёного-исследователя» и «специалиста». В работе применён метод формирующего эксперимента, предполагающий сочетание цифровых, лингвистических и лингводидактических средств и самостоятельный выбор этих средств студентами в специально организованной ситуации исследования. В ходе работы получены результаты, демонстрирующие уровни сформированности представлений о цифровой научной этике во всех её проявлениях.

Ключевые слова: выбор электронной платформы, заметка в социальных сетях, интернет-консультирование, интернет-реклама, медиакоммуникация, цифровая личность, цифровая наука, цифровая научная этика.

Abstract
The paper is aimed at analyzing the ways in which digital science ethics influence the media communication specialist personality development, taking into account clarifying the characteristics of ethics (general, scientific and digital), communication (general, media communication and digital), as well as the correlation between the “research scientist” and “specialist” concepts. It applies the formative experiment method, which involves the combination of digital, linguistic and linguodidactic means and their independent choice by students in the specially organized research situation. The research obtains the outcomes demonstrating the development level of the ideas about digital science ethics in all its manifestations.

Keywords: digital platform selection, social media post, internet-consulting, internet-advertisement, media-communication, digital personality, digital science, digital scientific ethics.

Introduction

Being multi-faceted in its formulation, the topic of our article is clearly relevant as it is aimed at investigating the problems of several scientific disciplines. Initiating the study of this topic, we reviewed many general definitions of the concept of ethics. Our inspiration for this paper was the basic definition of ethics formulated by L.P. Shipovskaya, according to which ethics is understood as "practical philosophy", answering the question of "how should one live" [20, p. 57].

Though the definition presented seems rather simple, its choice is certain to be relevant at the historical moment of confusion resulting from the fact that too many digital communication devices have appeared. However, there are differences in the ethical sphere that are typical for different life areas. We rely on the “applied ethics” concept described in the paper by E.V. Belyaeva [2]. Our topic formulation implies considering applied ethics in relation to both media communications and digitalization. For this purpose, we have highlighted several applied ethics aspects in the digitalization field.

In our viewpoint, the first aspect related to the limitless Internet possibilities, from our point of view, belongs to jurisprudence field. It concerns considering ethics as

the set of norms aimed at protecting the personal information confidentiality [2, p. 77] from free access to it on the Internet, as well as protecting the individual rights from cybercrime [2, p. 76] (for example, the crimes related to computer-using, including various types of fraud). The second aspect is administrative and managerial. It is necessary to consider ethics as a set of norms that protect a person from limitless surveillance and control possibilities in the Internet — space, carried out by using special digital devices, within this aspect frame [2, p.75]. The third — the social one — lets us analyze the "digital society ethics" concept as the area that includes the norms of presenting the equal rights for the citizens to digital tools and technologies that have spread to all life areas [2, p.75]. This aspect is relevant for various reasons, including economic (lack of financial opportunities to purchase the necessary devices), age (difficulties experienced by the older generation in using devices). The fourth- the economic one — is aimed at considering ethics as the knowledge field that regulates the process of replacing human intelligence by artificial intelligence in order to protect people from losing their jobs. However, in general, all the ethics analysis angles mentioned above appear to boil down to the general problems of decency, honesty and respect for the individual.

Studying the term "practical philosophy" allows us to consider ethics as a branch of philosophy, as well as an aggregate set of rules to be followed in practice — in both professional and scientific activities and everyday life [10]. Moreover, it is notable that the second part of the definition is framed as a question. It is well-known that the basis of any scientific research is a hypothesis that needs to be either confirmed or refuted. This implies that at the heart of the hypothesis always lies a question in an indirect form. The answer to which only becomes clear after obtaining and analyzing research results. Such theoretical foundation allowed us to move from discussing ethics, in general, to considering the concept of scientific ethics, in particular.

The topics related to moral standards are of interest to scholars because of the ambiguity of their impact on the individual and society. On the one hand, moral norms inherently contain a positive idea, as they are considered to be a set of beliefs about good and evil. Consequently, as a member of society, a person is convinced of the rationality of ethical mechanisms regulating his behavior and activities through personal experience, that is, by consciously assimilating them. A person extends these norms to communication with others, leading to their development as an individual. Ideally, according to the definition of the concept of 'morality,' a person ought to become an individual with numerous virtues (justice, honesty, integrity, humanity). Meanwhile, it is assumed that under the influence of moral norms, the society should become civil, that is, serving the interests of its citizens. Speaking about new digital technology applications, we can assume that the morality norms supported by them are to represent the individual`s humane treatment, in particular manifested in respecting one`s free time (for example, through reducing cost of doing complex and routine tasks).

However, on the other hand, any rules are stereotypical. As a result, in some cases, an individual may perceive the need to comply with a set of norms as a suppression of freedom and creative initiative. Besides, ethical norms vary across different social formations. As a result, the norms that are beneficial for one society may be incomprehensible and detrimental to another. In other words, certain ethical norms may negatively affect the individual, in particular, and society, in general.

There is another side of the coin in using digital technologies. Speaking about their general negative aspects, we can conclude that frequent failures in the computer software operations, resulting in data loss, not only create inconvenience for the user, but can also be associated with disrespect for his personality as well as irresponsibility of the employees serving it in different organizations.

This discussion demonstrates that the problems of ethical norms can be investigated from the perspectives of various humanities disciplines, including philosophy, political science, and jurisprudence. However, being analyzed at this historical period, they also include a number of exact disciplines which subject is new digital technologies.

Embarking on the exploration of the essence of the concept "scientific ethics," we elected to thoroughly analyse the characteristics of the term "science." From the perspective of researchers V.N. Idronova and A.O. Ovcharov being considered in the general sense, science is a distinct form of activity aimed at "acquiring and systematising objective knowledge about nature, society," and humans themselves [6, p. 2].

We have also analyzed a number of scientific papers dedicated to the digital transformation role in science and scientific cognition development. After that, we made the attempt to formulate modern science definitions based on the peculiarities of analyzing its operation in the digital transformation era. We formulated these definitions based on the data obtained from the papers by researchers Shugurov M.V. and S.I. Mozzhalin [21].

Besides, we attempted to subdivide these definitions into two groups. The first group of definitions refers to the scientific cognition content. We paid our attention from this standpoint to the fact that using digital technologies lets us consider modern science as the activity type aimed at obtaining relevant results and being of practical significance at the present time period. In oth-

er words, the scientific outcome application scope not only expands significantly, but also becomes more up-to-date due to digital technologies. Digital transformations themselves can become the scientific analysis object, as they have both advantages and disadvantages. The above mentioned study notes the fact of the small publication volume devoted to the digital transformation possibilities, that are due to ambiguous scientific community attitude to their application. The way to define modern science as a field of knowledge that studies the possibilities of new digital technology application, its advantages and disadvantages either at the basic or applied level.

The second group of definitions refers to the scientific methods, ways and practices. There are also secondary information processing methods (for example, statistical, comparative, modeling methods) in addition to the objective scientific methods (such as observation, experiment). New digital technologies make it possible to optimize operating the second group of methods, techniques and ways. New digital technologies allow to transform modern science into the field demonstrating the outcomes of high visibility degree, due to modern possibilities for creating different scales digital models and schemes. The other definition, according to which modern science is considered as the field characterized by the large knowledge volume results for the previous one. The argument for this is characterized as “big data” application [21, p. 107].

Thirdly, we believe that in any case digital transformations make it possible to consider modern science as the precise knowledge system (even in refraction to the humanities and social disciplines).We have identified two reasons for this. The first reason is that computer science, which explores the possibilities of new digital technologies and interacts with other scientific disciplines, is an exact discipline itself. The second reason is that new computer technologies used in the research on any discipline allow to rely on the large information amount, processing it in the shortest possible time. Fourthly, digital technologies that enable to analyze “big data” make modern science the valid knowledge system, as they improve the information processing quality used to argue scientific conclusions, achieve goals, solve problems and confirm hypotheses. New possibilities let us make adjustments to modern science definition, which is viewed as the field aimed at obtaining a large volume of arguments to justify new emerging knowledge by digital technology means. Fifthly, we can view science as the activity of creative nature. Accordingly, using artificial intelligence and computer software, such as Excel, allows to free the researcher`s time from performing complex calculations for creativity [21, p. 106].

The third definition can be conditionally referred to the ones characterizing the scientific knowledge consumer group. In this respect, modern science is presented as the activity which outcomes are popularized for a wide circle of users. At the same time, new digital technologies are able to this popularization ways, conventionally divided two groups as the systems for: 1) information storage (scientific electronic libraries elibrary, Modern library.ru); 2) scientific information search (Google Scholar, Semantic Scholar).

We find the science general definition presented above appealing due to the fact that it fosters a perspective for investigating the personal qualities of a scientist-researcher. Thus, the term "objective" related to knowledge is associated with such researcher qualities as truthfulness, observance, and curiosity. Truthfulness is stipulated by the fact that objective knowledge is true, as opposed to false, like subjective pseudoscientific information. Observance and curiosity stem from the notion that to acquire knowledge of an external environment, a researcher must focus on seeking and analyzing information from various sources, which requirement expending resources (specifically, time) and exhibiting a keen interest in the research subject.

The necessity for "systematization" of acquired knowledge is associated in our minds with personal qualities such as precision, meticulousness, and the love for order. In its turn, all these possibilities are reinforced in computer technology field. Thus, the term digital accuracy can be applied in this field, where the level of mastering digital information processing tools (for example, Excel software), implying a huge error free calculation degree creates the user-scientist`s need for this maximum accuracy, which is the stimulus not only to study all the software functional possibilities, but also to develop the corresponding personal traits.

Another characteristic — neatness and the tendency to order — is reflected in the fact that an effective researcher –scientist is competent enough in using word processing software, creating specific electronic folders as his literature search outcome and naming them according to the issue at hand (including attachment folders). Minimizing tedious and monotonous physical efforts, a researcher-scientist can concentrate only on systematizing the material, which also encourages personal development in the due way.

We conditionally refer to another trait that implies the knowledge of digital technologies and tools as digital communication skill. We suppose this trait to imply a combination of both communicative and technical skills. Communicative skills imply the ability to overcome the communicative barrier under the conditions of the communication that is not direct, but mediated by communication devices, as well as to gain trust in the interlocutor, who gets the chance to hide his appearance under digital environment conditions. Technical communication

skills imply overcoming technical difficulties (communication interference, inability to plug in a presentation during a scientific during the scientific report making process.

This overall approach to science and scientific knowledge allowed us to transition to the problem of the peculiarities of scientific ethics, which, according to researchers Vitman M.Y. and Nevorotov B.K., represents a "form of applied ethics" for the "normative regulation of the activities of scientific personnel" in general terms [3, p. 94]. This statement commands our attention for several reasons; firstly, it emphasizes the possibility of applying ethical norms to various types of activities, as evidenced by the defining word "applied" in relation to ethics. It is this definition that demonstrates the possibility to move to even more profound exploration of the problem at the digital scientific ethics level.

We have found the chance to characterize scientific ethics in the society digitalization period, in some researchers` papers. Firstly, it is possible to cite the inclusion into the set of norms for censuring the ways to violate the text originality by “word and phrase rearrangement” process accompanied by the meaning preservation, which is carried out much faster by applying special digital devices [11, p. 276–277] (in particular, neural networks in the rewriting mode). That is, computer technologies can provide not only benefits but also harm to the society, creating new ways of violating ethical norms due to high violation speed. Secondly, artificial intelligence application creates new opportunities for forgery and fraud in science (in particular, when writing term papers, theses and dissertation-papers by means of exclusively neural networks). Secondly, the phrase "scientific personnel" instead of the term "scientist" allows the application of scientific ethical norms to practical professional activities. We are talking here not only about professional but also about scientific ethics, and science. In our opinion, it serves as the highest level of personal expression in the professional field. In particular, digital technologies themselves can be characterized not only as the means for solving utilitarian practical problems, but also as the research object. This understanding, on the whole, allows for the enhancement of both professional and general cultural levels of the individual. Scientific ethics governs the activities of a researcher, both individually and in collaboration with other members of the scientific community. Drawing on the works of other researchers, scientific ethics encompasses the domain of writing research papers, presenting at conferences, and reviewing printed publications.

There are various violations of scientific ethics. We believe that, on the one hand, using modern digital technologies makes it possible to address scientists` ethical problems, but on the other hand, exacerbates them. The first violation, plagiarism, involves the illegal use of the intellectual work of others in one's own works without any reference to the source, that is, an attempt to appropriate the results of another's research. The study of this phenomenon is of particular relevance, as there is currently a trend of inflated publication requirements for scientists, leading to shortcomings that characterize the quality of printed works. In the recent study by Tunda E.A. is pointed out that, on the one hand, the Internet boundlessness intensifies the scientific information illegal use [17]. However, on the other hand, new effective means for checking the scientific text originality level appear. The second violation, from our point of view, is pseudoscience, which we understand as the fact of presenting in research unverified arguments, arguments from sources lacking sufficient scientific reputation, or the absence of arguments for one's position in the research. The third violation of scientific ethics is related to reasoned criticism by an opponent of someone's scientific work or criticism in an insufficiently polite form. This type of violation is related to another — the refusal to publish a researcher's article in a particular journal or collection without providing a reasoned review. However, this problem is being solved quite effectively at present due to the Internet resources that, in particular, offer the best templates for writing reviews with various formulations and justifications.

The importance of the above problems is conditioned by the fact that their presence is a sign of disrespect for the individual. Personality, as studied from the vantage points of various scientific disciplines, is a complex notion. Several approaches to the term 'personality' are examined in the work of the researcher A.N. Sukhov. From a biological approach, personality is understood as the outcome of the 'unfolding genetic program' [16, p. 10]. Providing this definition is relevant to our research topic, because there are persistent associations between the “genetic programme” and “computer software” notions in our minds. The latter contributes to understanding the term “digital personality” discussed below. From the perspective of a social approach, personality represents a 'replica' of social conditions [16, p. 10]. In this case, the term “copy” that we have mentioned is also consonant with the digitalization problem (in particular, with the printer operation). The above-mentioned associative links may serve as the evidence of the imperfect and formulaic identity comprehension within these approaches. Each of these approaches is imperfect, as neither fully considers the individual's capacity for self-development, instead overemphasising the impact of external factors such as heredity and social conditions. The socio-psychological approach, which views personality as a sum of 'socialisation mechanisms' revealing its socio-psychological structure as well as an array of individual charac-

teristics, should be regarded as the most effective [16, p. 10]. Personality may also be seen as a collection of social roles performed in specific life situations. Concerning the content of our work, we can consider the roles of a research scientist and a specialist in intercultural communication. In a more narrow context, we also discuss the roles of a copywriter (advertising author) and content manager (author of social network posts), digital technology user and computer programmer.

Moreover, we have also studied various approaches to the term 'society'. According to the viewpoint presented in the article by N.G. Khoroshkevich, society is a 'long-standing... system of interaction among people, arising to satisfy their needs and... unified by a common culture' [18, p. 182]. This definition allows us to conclude that, on one hand, the individual influences society, and on the other, each person contributes—positively or negatively—to its life and activity. Here, adherence to ethical norms becomes a condition for successful communication and contributes to the development of both the individual and society. Furthermore, the statement that members of society are 'united by a common culture' leads us to conclude about the variability of moral norms existing in different communities (age, cultural, professional) and different social formations.

In turn, a number of modern researches introduce the "digital society" concept. Thus, digital society is understood as a "technocratic society" that uses "self-service devices in the paper by E.E. Krieger [9, p. 31]. Combining this definition with the basic one formulated by N.G. Khoroshkevich, we conclude that digital society is united for the common search and improvement of the ways to meet needs through the Internet commerce, search engine possibilities, etc. This approach to understanding society has both advantages and disadvantages. Thus, on the one hand, such device operation properties as speed and accuracy should make society more independent of external circumstances to some extent, freeing up the time for creativity and mental labor instead of physical labor. However, on the other hand, communication taking place in the digital environment deprives the society members of the joy resulting from full-fledged communication and reduces the mutual understanding degree. Besides, the notions "digital" and "technocratic" included into the definition deprives society of its social and humanitarian basis.

In our investigation, we have examined interpretations of the term "development" in scholarly writings. Of particular interest to us was the definition proposed by G.V. Popov, which describes development as a "dynamic process... of qualitative transformation of reality..." [14, p. 142]. The term "qualitative" suggests the possibility of studying the development of personal traits. In relation to a living being, the concept of "development" can be applied across various disciplines, including natural sciences (development of a cell, a living organism), humanities (personal development), and social sciences (development of society). Development-related themes are of importance for several reasons: firstly, development can proceed along two opposite trajectories—positive (progress) and negative (regress). Secondly, development takes place under the influence of various factors external to the system under study. We have also analyzed the essence of the term "influence," which, according to V.I. Guryev, represents "a direct or indirect impact..., inducing change..." [14, p. 213]. Thus, development facilitates comprehensive investigation of a given issue. Concurrently, the connection with external factors creates conditions for more multifaceted research.

Analyzing our research topic, we came to the conclusion that it is necessary to consider the term "transformation" due to the necessity to take into account the digital transformation influence on the scientific ethics modern comprehension in our paper. For example, basing some other ideas on I.N. Dyomina`s paper, we can formulate general definition for the term "transformation", which means the "change" that has reached the highest "depth and scale" [5, p. 159] .

Thus, the terms "influence", "development" and "transformation" are closely interrelated, and the term "transformation" is the most voluminous in terms of both composition (includes two other concepts) and scale spread.

The concept of "communication" is broadly studied by various scientific disciplines. Our attention was drawn to a definition formulated by P.V. Yakupov, according to which communication is a multi-faceted phenomenon that encompasses both "the reception and transmission of information" and "the mutual overlay of experiential spheres, particularly in the generation of meaning" [22, p. 261]. This definition is all-encompassing as it touches upon issues relevant to both natural sciences (transmission of genetic information) , the humanities (transfer of meanings in communication) and technical disciplines (information technologies). Communication can take place between individuals as well as between groups via different channels, utilizing a common system of signs. The study of communication-related issues remains pertinent because any professional activity is conducted based on information that is essential for all participants to achieve high results. Within the framework of the general communicative approach, the concept of media communication has emerged. From the perspective of S.S. Rastopova, media communication can be seen as the process of "personalizing mass communication" on one hand, and transforming interpersonal communication into mass communication on the other, through the use of technical means [15, p. 80]. We prefer this definition of media communications to others because it highlights

its advantages — freedom of access for every user and the ability for far more participants to communicate than in a face-to-face format without any technical means. These technical mediums may include broadcasting and television, mobile, and digital devices. Thus, the interconnection between communication, in general, and media communication, in particular, is quite evident. Various mobile and computer devices serve as channels for transmitting information. Digital symbols can be used as signs in this communication.

The significance of research related to media communications lies in its role in enhancing the efficiency of communication. These indicators may be quantitative (number of messages transmitted over a specific time frame, exchange speed) and qualitative (diversity in forms of information transmission). The manifestations of these properties in the greatest scope and best quality characterize not just ordinary media communications, but primarily digital communication as well. It is also evident that, due to the efficiency of this mode of communication, a trend towards the digitalization of society is currently observed. This phenomenon is studied in the articles of many researchers. In particular, from the perspective of M. Kondratieva and A. Komakhina, digitalization is considered as "a process aimed at development or progress through the use of digital technologies" [8, p. 137].

The theme's formulation asserts that digitalization serves as a condition for developing the skills and qualities necessary for conducting media communication activities. The term "digital communication", analyzed in many researchers` papers, also plays a huge role in understanding the topic. In particular, the term "digital communication" represents the communication "mediated by...digital resources" in the paper by T.P. Orlova [13, p. 42]. We assume that besides the already discussed advantages, digital communication creates a kind of artificial barrier between communicating individuals, which makes communication insufficiently person-centered. This is indicated by the term "mediated" used in this definition. Furthermore, we have explored the essence of the term "condition," which, according to the article by N. Ippolitova and N. Sterkhova, represents a component of the "environment for the occurrence, existence, and development" of a given phenomenon [7, p. 9]. We refer to digital environment to great extend in our research.

Thus, analyzing conditions allows us to question the course of development (or transformation) (in this case, of the personality) under the influence of certain factors (in our case, the assimilation of ethical norms, in general, and digital morality norms, in particular). It is well known that the domain of scientific activity is traditionally occupied by scientists, who are specialists responsible for the production, refinement, and systematization of scientific knowledge. However, besides the knowledge of their main professional focus, they have to produce and improve knowledge of creating and operating specialized research software, as well as adapting this software to their own research topic.

Several articles have been reviewed, focusing on the analysis of the generalized characteristics and professional identity of the scientist. For instance, we contend that the personality of a scientist as discussed in the paper by N.R. Arnautov is examined within the framework of role theory. Here, in the vocational aspect, a scientist is viewed as an "associate professor" or "professor," in terms of overall professional self-identification as a "research fellow," and in the context of vocation as a "mentor," meaning an individual who does not only impart knowledge and develop skills but also guides the scientific pursuits of the youth and inspires them to achieve their own research outcomes [1, p. 20].

Continuing this idea, we can imagine other scientist`s identifications in the digital competency context (in particular, as a user of scientific research e-services). The concept of "specialist" has been characterized in many scholarly works. In the paper by S.V. Nikiforov, a specialist is described as "an individual possessing high professional and personal qualities, who has creative potential, professional autonomy, and is capable of self-development within the process of professional activity" [12, p. 79]. The analysis of both concepts leads to the conclusion that the term "specialist" is broader than "scientist," meaning it encompasses both professional scientists and practitioners. However, it is well acknowledged that only an expert in their field can become a scientist. That is, practical professional activity is a prerequisite for scientific work. There is another aspect of the problem. Any scientist should not only be a high-level specialist in his/her profession nowadays, but also in the field of digital technologies and tools in order to improve the scientific work efficiency.

Thus, on the one hand, the computer technology introduction is of applied importance for many researcher-scientists` activity (for example, in the case of knowing the ways of digital technology and device operation as well as the ability to use them is an important specialist`s activity component). However, provided computer technologies themselves constitute the research object, we can already speak about the scientist's activity in the field of digital technologies.

Furthermore, the hypothesis of our research is as follows: we believe that adherence to numerous norms of scientific ethics (including digital science ethics) is essential not just for scientists, but also for practitioners (particularly in the field of media communications largely combined in our understanding with digital communications at the present historical moment).

Research Aims, Subject, Object, Tasks, and Problems

The aim of our study is to analyse the ways in which scientific ethics as the subject of our research impact the development of the individuality of a media communications specialist as the object, taking into account the society digitalization conditions.

The tasks of the study are to: 1) analyze the methods of correlating general and specific concepts: ethics and scientific ethics in ordinary and digital formats, communications and media communications; 2) compare the notions of 'specialist' and 'scientist'; 3) clarify the existing science concept definitions form the positions of digital transformations in the field; 4) identify the main norms and rules of scientific ethics (including in the society digitalization terms); 5) determine the ways, methods, and forms through which digital scientific ethics influence the qualities of a specialist's personality; 6) examine the possible causes for the scientific ethics observance and violation in different types of media communications and digital communication; 7) develop the foundations of a methodology for teaching the principles of scientific ethics to media communication specialists in the context of foreign language classes, considering possible interrelations between the formed qualities and digital transformation impact.

Analyzing the problematic nature of our research, we deemed it appropriate to highlight two aspects- general and particular. The general problematics aspect lies in emerging the contradiction between the humanitarian character of ethics as a discipline and digital ethics technocratic character. The particular problematics aspect comprises two components. The first aspect of the problem is associated with the fact that the inflated publication requirements may result in violating the scientific research originality. The second aspect of the problem lies in the lack of clarity regarding the reasons for which practicing professionals ought to adhere to the scientific ethics norms.

Description of Research Methodology

During the execution of the theoretical part of the research, several methods were employed. The first method, comparative analysis, facilitated the identification of similarities and differences between the concepts of "ethics", "scientific ethics" and “digital scientific ethics”, "specialist" and "scientist", "communication", "media communication" and “digital communication”, as well as the ways in which they interrelate. The second method, modeling and analogy, provided the means for a conditional transfer of the norms of scientific ethics to the practical professional activities of a media communications specialist (including digital media communications), analyzing the reasons and peculiarities of this transfer.

For the practical part, we applied the method of formative experiment. We devised the experimental methodology that involves the development and application of the ways to observe scientific ethics (including under digital technology and tool conditions) within the context of foreign language classes. We selected a foreign language as the discipline through which the positive qualities of an individual's personality are developed whilst mastering the norms of scientific ethics, in general, and digital scientific ethics, in particular, since any language, be it native or foreign, serves as a vital medium of communication, which is the topic of this research. Moreover, a foreign language is acknowledged as a means of engaging with the culture of another nation, activated through using Internet resources, online communication on social networks and electronic platforms. Therefore, as challenges arise in the course of communicating with representatives of other countries, knowledge and adherence to moral norms carry particular importance.

In the context of this methodology, we have identified principles of scientific ethics (including digital scientific ethics) that are particularly relevant to specialists in the field of media communications. Concurrently, we compared the principles that conform to norms of scientific ethics, in general, and digital scientific ethics, in particular, with examples of their violation. The first principle we highlighted was reliance on the scientific approach, representing a distinct way of thinking and understanding, divergent from everyday cognition. We identified pseudoscientificity as a violation of this principle. From our point of view, adherence to this principle is of immense importance in advertising, which is understood as a direction of communication where information dissemination occurs with the objective of attracting attention to the advertised object. This aspect is most significant for media communications, which increase the speed at which information is spread by means of applying digital technologies and tools. We suppose the information used in media-commentator’s work is to be scientifically-based, but not pseudoscientific.

We theorized that food product advertising should be based on scientific knowledge, including the knowledge from different agricultural and technological disciplines. In other words, an advertiser should take into consideration consumer benefit rather than achieving goals by any means necessary. To implement this approach, the experimental group students of the 'Advertising and Public Relations' specialty created the Internet- food product advertisements in a foreign language. Preparation for this task was executed in several stages. Each stage used different digital technologies and tools, their choice having been justified in accordance with the research aim and tasks.

We characterized the first stage as the development of awareness, that is, understanding the reasons necessitat-

ing such an approach. At the beginning of this stage, students were engaged in a discussion on the topic: "*What scientific disciplines must advertisement creators be acquainted with?*" To foster a more effective discussion, additional questions were posed, which we categorically divided into two groups according to the variety of reasons for the approach, as assumed in the answers to the questions. The first group includes general rationale for the necessity of the interrelation between advertising and scientific knowledge: "Does science provide objective knowledge about reality? Does objective knowledge furnish information on the reasons some products are either beneficial or detrimental to health? Do the reasons for the beneficial and harmful nature of products stem from their properties, composition, production methods?" The second group relates to specific scientific disciplines and types of goods: "*What scientific disciplines must advertisement creators be acquainted with? Why must an advertisement creator be knowledgeable about agronomy? What products does an advertisement creator promote when he is to know agronomy? Does he advertise fruit juice when he is to know agronomy? Must an advertisement creator who advertise milk know animal husbandry? Does animal-husbandry study the ways of animal-breeding? Do the ways of animal-breeding influence the properties of meat and milk?*"

We monitored the students' responses at this stage. We used the possibilities for quick search of pictures in Google and Yandex systems in the negative answer case. Then these pictures were shown to students in the computer screen. These images demonstrated to students popular scientific reasons for food product high and low quality. At the same time, these images served for persuasion visualization.

Following the discussion, a monologue message is constructed on the topic of "*The Relationship Between Advertisement and Scientific Knowledge*". The second, cognitive phase is intended to develop curiosity. Students were required to select the texts about plant and animal products independently using modern search engines at the beginning of this stage. Our approach essence was suggested our students using not ordinary, but specialized scientific search engines (such as Google Scholar, RefSeek, Journal Map) rather than the usual ones.

We have highlighted the reasons for using scientific search systems in our research. The first reason is that the scientific level of the texts selected increases. The second reason, related to the first one, is that using scientific information retrieval systems let the experimental group students select texts with specific rather than general content (for example, "*the influence of red and yellow potato composition on consumer's health aspects*"). Concretization is expressed through the establishment of interdisciplinary links (in particular, uniting agronomy, agrochemistry and medicine problems) by the subordinate English language tool — the word *influence*. The third reason is that the experimental group students were also given the task on searching for information about the product that has not been known. That is, modern search engines let the experimental group students get the latest and most relevant information about these or those varieties of farm products. After that, the students read, translated and abstracted texts selected by themselves. After that students read, translated and reviewed the texts they had found.

The third stage of the work was termed as the analytical stage. The experimental group students were asked to discuss the advantages and disadvantages of the two scientific information search systems they had tested — Google Scholar and Journal Map on the questions asked in the foreign language: *Which search system provides us with more information? Which search system provides more detailed information for us? Which search system presents multidisciplinary information about scientific objects?* The organization of such a discussion is most relevant for media communication specialists, whose main professional activity subject is information.

Another aspect related to digital science ethics is the credibility of food images created by using visual tools, such as PowerPoint and Pictochart. The reason for this is that improving the quality of the images entails a desire to embellish the images of real foods, which may mislead potential consumers about their properties. Consequently, the work with food production image pictures was supposed to be used at the penultimate stage of work with the experimental group students in developing the scientific attitudes. At the beginning, the task was given to compare two images selected by the teacher in different electronic systems — general and scientific search — general and scientific search. The student was asked to choose an image for his advertisement and argue the choice, as well as guess which search engines had been applied by the teacher. In order to argue their opinion, the experimental group students were asked to answer questions like: *Which picture presents more realistic apples in their color and size according to their variety?*

Then the experimental group students were encouraged to select both images and search engines on their own. In the final stage, students were encouraged to be creative by designing an internet advertisement for an animal or plant product with the detailed analysis of the properties that are beneficial for health. The advertisement took into account the scientific factors (composition, breeding techniques and the technologies for animal-breeding and plant cultivation), found by means of the most effective Internet resources, as well as created using the modern software (Paint, PowerPoint and Pictochart) capabilities. We hypothesized that creating Internet- ad-

vertisements with a scientific approach and information reliability develops the advertiser's responsibility sense for consumer health. Expanding on this idea, we understand responsibility as the ability to foresee the positive and negative consequences of one's actions for others.

A second principle of scientific ethics could be articulated as the requirement for the originality of publications, meaning the absence of plagiarism. We believe that the contemporary capabilities of media communications, in general, and digital technologies and tools, in particular, enhance the originality of textual material — both scientific and journalistic-advertising — because, firstly, they allow for rapid online sourcing of quotations, and secondly, they provide the opportunity to use modern systems for checking text originality.

We have applied: 1) the scientific search system Google Scholar; 2) the service of text checking for borrowings "antplagiat.ru" in our research. Another similarity is identified between the work of scientists and media communication specialists. It is known that an important professional activity is the coverage in social networks of events, processes, and results of various specialists' professional activities. In posts compiled by media communication specialists, just like in scientific articles, statements by other people — participants or eyewitnesses of the described events — are presented. Occasionally, authors of these posts may wish to present the most vivid statements as their own, which constitutes a substantial violation of scientific ethics.

Within the framework of foreign language classes, students were also trained in the Internet note-writing, which included quoting other individuals. These notes were posted on the social network "VKontakte". It was explained to them preliminary that quotes should be enclosed in quotation marks. However, for direct quotation, a sufficiently large portion of the text should be enclosed into quotation marks. We trained students to understand and use an important technique, which we had conventionally termed as analytical citation. For this purpose to be achieved, a number of training exercises in a foreign language were carried out with the students using digital tools that are appropriate to the task at hand. We have identified a number of language topics and aspects that require preliminary study.

In our view, the basic grammar topic of a foreign language aimed at teaching students how to quote is direct and indirect speech. In the first stage, students learned to distinguish between direct and indirect speech. In the second stage, students performed preliminary exercises to convert direct speech into indirect speech, and vice versa, indirect speech into direct speech. Given that social media notes containing quotes serve as a concise genre, the teacher asks students to transform complex sentences in direct speech into simple sentences in indirect speech. The students were encouraged to use a special AI rewriting service and a synonymiser programme for effective training in sentence restructuring. It allows them to spend less time on rephrasing a thought and more time on analyzing it.

As is known, the most vivid statements are considered to be those containing artistic expressive means. Students were required to select a verb corresponding to the expressive technique used in Table 1 (see Table 1).

Table 1

Method of transforming direct speech into indirect speech with a selection of verbs according to the artistic device used

Topic of a note	Artistic device	Speech:	
		Direct	Indirect
A visit to the seascape exhibition in the art-gallery	Comparison	A young visitor says: "The field covered with flowers look like a multi-colored carpet"	A young visitor compared the field with "a multi-covered carpet"
	Epithet	The old woman says: "The sky painted in different pictures varies from azure-blue to gloomy- grey, milky-white and even fiery-red"	The old woman described the sky in different pictures as varying from "azure-blue to gloomy- grey, milky-white and even fiery-red"

According to the data in the table, the phrasal verb "*to compare with...*" is required for conveying comparisons in indirect speech in the English language, and "*to describe as...*" for conveying epithets.

Students are preliminarily trained in differentiating artistic devices in a foreign language. By analyzing the original sentences, they identify features of comparisons (*look like...*) and epithets, singling out the first, figurative part of the detected adjectives: azure, gloomy, fiery. Thus, students come to the conclusion that epithets are adjectives consisting of two parts, with the second part being figurative. In order to increase the perception imagery, students were preliminarily given the tasks to search for pictures-images in a special search engine referred to as Google Images for selecting special artistic speech means to them afterwards.

We believe that the absence of plagiarism fosters such a personal quality as honesty, which is understood as truthfulness in words and deeds, the avoidance of distorting the truth.

Another important positive trait is modesty — in this context, it is understood as the ability not to overestimate oneself. Students were advised to include vivid, figurative, and appealing quotes in their notes. Here, modesty is expressed in citing the source, not claiming authorship of artistic figurative statements. In the case of training to enhance the originality of speech in journalistic texts, avoiding plagiarism also develops the students' independ-

ence, expressed in the ability to make decisions, create products without outside help, and choose a method for expressing the quote. At the same time, using special digital tools for paraphrasing, depriving the quotation of monotony, makes it more appealing.

The third important principle of scientific ethics is the validity of results. Under validity, we understand substantiation and argumentation. As an important direction of media communications, suggesting substantiation of information, we will cite consulting.

Currently, consultations take place on various online platforms. On the one hand, modern computer tools allow quickly finding additional supporting arguments using the possibilities of the internet. However, on the other hand, unlike direct communication, communication on an online platform can provoke inadequately substantiated responses to consumer inquiries, as the sense of responsibility decreases due to the lack of direct contact.

For example, consumers can be advised regarding goods to enable them to choose the product which best matches their needs, is beneficial, and does not harm their health. Unlike advertising, consulting differs in the possibility of dialogue between the producer and consumer, as well as an increase in the degree of spontaneity in the communicator's search for arguments due to questions asked by the recipient and their remarks. Students preliminarily explored the possibilities of obtaining arguments supporting one thought or another. We organized a role-play with the experimental group students on the topic "Advising consumers about products". The game was conducted twice on different internet platforms — zoom and webinar.

In order to prepare for this game, students were asked about the possibilities of obtaining arguments to support a particular idea. The main type of work organized for this purpose is case analysis. The student was presented with the consultation topic (for example, "*New cheese brand*") and asked: *How is it possible to gather valid information about it?* They chose different methods including asking consumers and the seller about the product, purchasing and consuming the product themselves, analyzing the product composition on the packaging or label, and collecting information about the consumers of this type of cheese. The forms of information collection were also chosen. They include visiting a shop, using online resources. Next, students were asked to answer the question: *How have you gathered information about this cheese brand?* Let's look at possible answers: 1) *I have bought and tasted it myself;* 2) *I discussed the consuming experience with those who have tasted it;* 3) *I have examined the information on the label;* 4) *I have found the information in the Internet* in order to argue the most efficient information source selection.

As a result, the experimental group students had to conclude that electronic search engines are not the main information source but the additional information source due to their mediated nature. In the last stage of the work, students create a scenario for a consultation, conducted by a marketer or commodity expert, about the product — its consumer and organoleptic properties. This requires the student to include in the advertisement arguments based on the information obtained.

This personal quality, which is developed under the application of the principle of scientific ethics, we have conditionally called 'scientific pragmatism'. Scientific nature lies in the peculiarities of the approach to information gathering. Pragmatism implies the ability to rely on information sources (including the most trusted electronic resources) to persuade of its truthfulness. The introduction of this term is particularly relevant within the context of transferring the approach to the ethics of the scientist to the course and results of the activities of a practitioner in the field of media communications.

The fourth principle of scientific ethics is the adherence to norms of politeness during the critique of intellectual work outcomes. When considering scientific professionals, critique is required in the course of scientific discussions, as well as in the writing of peer reviews for scholarly articles. Analyzing the peculiarities of specialists in the field of media communications, it should be noted that they encounter criticism of their notes in social networks. Firstly, such criticism must be justified, that is, based on arguments. Let us provide an example of critical commentary on a play inspired by a classic work: "*As for me, I do not quite agree with the producer's interpretation of the classical image because it is excessively modern; therefore, the producer has essentially staged a different play, sharing very little with the classical novel.*"

An important quality of argumentation is the ability to use causal conjunctions. Firstly, students were encouraged to use synonymous conjunctions meaning 1) "*because*" (*for, since*); 2) "consequently" (therefore, thus, for this reason, that's why). The synonymity of expressions becomes a factor in the development of creativity, as well as coherence in statements. Secondly, students were required to correctly select causal conjunctions according to the position of cause and effect within the sentence. As demonstrated by the example sentence given earlier, to the left of the conjunction used in the sense of "*because...*," the part of the sentence expressing the effect should be placed, and to the right — the cause. In order to develop the skill of rearranging the complex sentence causal and consequence parts effectively, we used specific AI-based rewriting service again.

From our perspective, logical and convincing argumentation enhances the level of trust in the critique and is thus perceived as respectfully formulated. Thirdly, it is necessary for the form of expressing critical comments to be polite, which corresponds well to the mentality of the country of the language being studied. Within our approach, students were offered additional tasks in the form of the online-testing — to choose the more polite statement from three options presented: for example, 1) *I disagree with the producer*; 2) I dislike the play; 3) *I do not quite agree with the producer*.

As the correct response, we highlight the third option, as it exhibits a lesser degree of assertiveness than the second option. Students explain this by noting the presence of the adverb 'quite' in combination with the disagreement in the third option. The second option is not entirely appropriate within the context of upholding the norms of scientific ethics due to its direct expression of a negative attitude towards the events in question.

After mastering the methods for executing each task, the instructor asked the students to once again independently perform each type of work without any preliminary instructions. Thus, the students were again tasked with creating an internet-advertisement for a food product, making an independent choice between using generic appealing phrases and seeking scientifically substantiated information; between general and scientific search systems.

Later, when composing a note for social networks, the students had to choose between attributing an attractive quote to themselves or formatting it according to all the rules of the chosen method. Preparing for an internet — consultation required the student to recall the need to collect valid information about the product — verifying data using different methods (including the Internet search system resources). Likewise, when formulating critical comments about the note, the student needed to choose a form of critique — polite and reasoned or more categorical and unsubstantiated.

We hypothesize that we have successfully diagnosed the impact of scientific ethics (including the digital scientific ethics) on the manifestation of personal qualities, as during the final stage of the study, provocation was created for participants: 1) they were informed that the time for completing the task was limited; 2) remarks were made regarding the failure to meet deadlines; 3) they were encouraged to include a vivid, attractive quote in the advertisement or note. However, the instructor did not insist on the urgent completion of the work. Consequently, the students faced a choice between completing the task timely and spending time searching for sources to verify information, scientific data to substantiate the high quality of the product, arguments for criticism. Additionally, students had to choose between the possibility of appropriating a vivid, expressive quote and the proper formatting of the citation chosen.

Course and Results of the Study

Our study was conducted during the first semester of the 2023–2024 academic year with students from two first-course groups at the Institute of Mechanics and Energy of the Russian State Agrarian University — Moscow Timiryazev Agricultural Academy, DM No. 112 as the experimental group and DM No. 113 as the control group. Training in group DM No. 112 was carried out using the experimental methodology we developed and described above, which was distinguished not only by setting tasks for carrying out activities in different directions of media communication within the context of foreign language classes and using modern digital technologies, but also by performing the above-described preparatory exercises of a persuasive, educational, and developmental nature. In turn, training in group DM No. 113 was conducted using a more traditional methodology. Although the students were also set tasks for performing activities in various media communication directions in the context of foreign language lessons, no special preliminary educational influences (including those with using digital devices) were provided, nor were preparatory exercises carried out.

To facilitate the interpretation of the results obtained during the research, we identified and described four levels of personal qualities manifestation under the influence of assimilating the norms of scientific ethics within the context of learning a foreign language accompanied by digital technology application.

Students demonstrating *high* level of personal quality manifestation adhered to digital scientific ethical standards in all tasks throughout the final stage of the research. Here, personal qualities were expressed not only individually but also comprehensively. That is, the manifestation of each quality saw the student exhibit autonomy in all its forms (in the selection of diverse information verification sources — including the Internet-resources, methods of citation, and scientific data about a product), creativity in the choice of various causal conjunctions for argumentation, and consistency in the accurate construction of causative statements. Besides , personality traits took on a certain coloring to identify them for a variety of work with digital technologies and tools.

Students with *good* personal quality manifestation performed almost all tasks, that assume new digital technology application, following digital scientific ethical norms at the concluding stage of the study. However, it is possible that some situations lacked a comprehensive display of these qualities (for example, while citing indicated honesty in a professional approach, there was a lack of creativity in the variation of citation formatting).

Students at the *intermediate* level completed some tasks considering scientific ethical norms. Nevertheless, the most precise and scrupulous adherence to moral principles tended to occur at the intermediate stages of the work, where extended instructor guidance was present. Some ethical errors were made during the final stage, which contained the instructor's provocative instructions.

Students with low levels of personal quality manifestation did not comprehend the necessity of adhering to scientific ethical standards (including the ones for digital scientific ethics) for the specialists in the field of media communications. No propensity to observe these norms while performing tasks was detected. Consequently, the required personal qualities are not sufficiently developed.

The findings of our study are presented in table 2.

Our research calculated not only the quantitative subgroups of students at each level but also their percentage ratios since the total number of students in each group did not match. The analysis of table 2 showed that the margin of error in the calculations was a mere 0,01%.

Table 2

Diagnostic results of personal quality manifestation levels under the influence of assimilating digital scientific ethical norms in the context of foreign language learning

Groups	Number of students	The level of digital scientific ethics development skills (Number of students)			
DM № 112	12	High	Good	Mid-lev.	Low
		10	2	–	–
		The level of scientific ethics development skills (Number of students)			
		High	Good	Mid-lev.	Low
		83,33	16,66	–	–
DM № 113	11	–	–	3	8
		The level of digital scientific ethics development skills (%)			
		–	–	27,27	72,73

As a result of the study conducted, the hypothesis was confirmed. That is, it emerged that, as was previously assumed, the professional activity of a specialist in the field of media communications shares a number of common features with the professional activity of a scientific researcher.

Conclusion

Evaluaing the development of the research point, it becomes obvious that ethical problematics tendency has increased due to the Internet space unlimitedness and weak controllability by humans.

Our research outcome analysis has demonstrated that introduction of digital technologies in all life spheres requires a special conceptual approach to ethics problems consideration.

Firstly, we formulated and substantiated the statement that teaching digital science ethics can be of applied value and be carried out within mastering various communicative disciplines (media technologies, foreign language), since ethics and digitalization constitute the communicative process aspects. Secondly, we have performed the scientist`s ethics concepts into the professional-practitioner`s ethics concepts. Thirdly, basing on the comparative analysis of the terms “scientist” and “specialist”, we came to the point that digital science ethics is significant within not only purely scientific, experimental, but also professional, practical activities due to the applied nature of modern relevant research aimed at meeting the society`s basic requirements. Fourthly, having conducted our research, a new term “digital communicability” was introduced and justified. It was also stated that “digital transformation” and “personality transformation” concepts had mutual influence in the context of a comprehensive approach to the research problems, which could be viewed as technical sciences expansion into humanities.

Finally, the ways to improve the media communicator`s professional activity outcomes by new digital technology means were considered, as well as listed and argued the advantages of some digital tools for solving certain professional and scientific tasks.

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