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Donetsk State University of Internal Affairs
Dnipro University of Technology
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**“INTEGRITY, OPEN SCIENCE
AND ARTIFICIAL INTELLIGENCE
IN ACADEMIA AND BEYOND:
MEETING AT THE CROSSROADS”**

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**ACADEMIC INTEGRITY AS AN ESSENTIAL COMPONENT
OF THE EDUCATIONAL PROCESS
IN HIGHER EDUCATION INSTITUTIONS
AND IN AN INDIVIDUAL'S LIFE ACTIVITIES**

**Serhii Abramov, Tamila Shumna, Herman Titov, Andrii Vyselko,
Serhii Sokolovsky, Ihor Burega**

*European Medical University, 3, Academician G. Dziak Str.,
mail@dmitnm.edu.ua*

*tshumnaya72@gmail.com, germanyalta1@gmail.com,
andrii.vyselko@gmail.com, doctor.sokolovskiy@gmail.com,
burega.iu@gmail.com*

At this modern stage, issues of academic integrity are important and relevant for every country. However, achieving honesty and integrity in all types of academic community activities is impossible without the formation of an honest and orderly society. According to the Laws of Ukraine "On Higher Education" and "On Education," the definition of academic integrity is provided, along with suggested regulating, monitoring, and punitive measures for all participants in the educational process. Currently, in all higher education institutions, checks on scientific works of academic and teaching staff and final works of students are implemented using IT technologies, specifically the software systems Plagiat.lviv.ua or StrikePlagiarism. Regulations on academic integrity have been developed. Therefore, when writing scientific and other types of works, it is necessary to strictly follow regulatory documents and recommendations. For instance, correctly citing with references to authors, especially when several users are working on related issues and might use the same citation from similar literary sources available in libraries or on internet resources. Terminology can also be repeated several times, and it's important to avoid turning the scientific content of one's research into a fictional

work just because scientific-professional terminology is frequently used. As currently, most plagiarism checks involve analyzing percentages through computerized verification, frequent repetition of commonly known terms or using widely accepted words or phrases might be misinterpreted by the software. This requires human intervention to make a proper conclusion regarding academic integrity. And now, in the era of artificial intelligence, it is crucial for humans to preserve themselves, to retain their human ability for analysis and thinking, and not blindly trust the capabilities of modern technologies. It has always been believed that a machine, even if it's intelligent, should serve humans, not the other way around. Therefore, the capabilities of artificial intelligence should be directed toward performing routine tasks to save time, resources, or other actions that would be beneficial and not pose a threat to humanity. Hence, the final decision-making in all matters should be left to humans. Honest, fair, intelligent, responsible humans.

Therefore, it is currently very important for all members of society, both children and adults, to adhere to honesty and integrity not only in education or teaching in educational institutions but also in everyday life, both at the household level and in all spheres of their educational and professional activities.

Key words: Academic Integrity, Higher Education, Regulations, Students, Humans.

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CONCEPTUAL PRINCIPLES OF LEGAL REGULATION OF ARTIFICIAL INTELLIGENCE IN UKRAINE AND THE EU

Iryna Almashi¹, Myroslav Almashi

¹*Uzhgorod Trade and Economic Institute
of the State Technical University of Ukraine
irynaalmashi@gmail.com, slavikuzhgorod@gmail.com*

Introduction. In the modern conditions of the development and use of the Internet, digitalization, development of the digital economy and information society, the study of the legal regulation of artificial intelligence (AI) becomes important.

Ukraine is one of the leaders in Eastern Europe in the level of implementation of artificial intelligence technologies in the corporate sector. In 2020, Ukraine ranked 57th among 172 countries according to the Government AI Readiness Index. Artificial intelligence algorithms are used in Ukraine to work with open data of the court register, monitor the state of the environment and identify risks in public procurement. Examples of the use of AI in Ukraine are: WINCOURT, Verdictum PRO, DeepGreen Ukraine, DOZORRO.

Materials and Methods. This issue was the subject of study by such scientists as: O. Porokhova and Yu. Noskovenko. During the research, inductive and deductive methods, generalization method, historical-comparative and legal research method were used.

Experimental Materials. Currently, there is no special law on AI issues in the legislation of Ukraine, but the Cabinet of Ministers of Ukraine approves the Concept of the Development of AI in Ukraine on December 2, 2020. The purpose of the Concept is to determine the priority directions and main tasks of the development of AI technologies to satisfy the rights and legitimate interests of individuals and legal entities, to build a competitive national economy, and to improve the public administration system.

According to this Concept, artificial intelligence is an organized set of information technologies, with the use of which it is possible to perform complex tasks by using a system of scientific research methods and algorithms for processing information obtained or independently created during work, as well as to create and use own knowledge bases, decision-making models, algorithms for working with information and to determine methods of achieving set (Kontseptsiya, 2020).

The European Parliament has approved a project that will form the basis of the future law on rules for the regulation of AI. The law will regulate AI depending on the level of risk: the more significant it is for the rights and health of people, the greater the requirements will be (Yevroparlament, 2023).

Currently, AI is actively using in Ukraine in various directions. The use of AI is especially important in the field of military technology. It helps to record the movement of equipment and personnel of the occupiers, shoot down enemy missiles, guide UAVs more effectively to targets, etc.

On the initiative of the European Commission, the European Alliance for Artificial Intelligence was established, which covers more than six thousand stakeholders and serves as a platform for public discussions. In the near future, it is plan to create an independent European Artificial Intelligence Board (Pravove, 2023).

Results. In this report analyzes the main provisions of the Concept of AI Development in Ukraine, highlights the problems associated with the development and introduction of legal regulation of AI, and reveals the issue of legal regulation of AI in the EU.

Conclusion. The widespread introduction of AI in Ukraine and the EU requires proper legal regulation. In order to protect human rights, it is urgent and necessary to adopt a special Law on the regulation of the use of AI, in which it is necessary to provide legal and institutional mechanisms for the introduction and use of AI, the protection of human rights and interests when using AI in one's practical activities.

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Key words: Artificial Intelligence, AI, EU, law, legal regulation.

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ETHICS OF ARTIFICIAL INTELLIGENCE IMPLEMENTATION: FOUNDATION OF INTEGRITY IN THE ACADEMIC REALM

Nadiia Bocharova, Iryna Fedotova

*Kharkov National Automobile and Highway University,
bocharova.n.a.xnadu@gmail.com, irina7vf@gmail.com*

The issue of academic integrity (AI) in the context of artificial intelligence remains relevant today. The rapid advancement of artificial intelligence introduces new tools for data processing and analysis, complicating the detection of plagiarism and increasing potential risks of violating academic integrity. The integration of AI

into educational processes may create complexities in assessing the originality of works, particularly in fields where algorithm-generated content can be challenging to distinguish from authentic creations. There is a need to develop and establish clear ethical principles for the use of artificial intelligence in academic settings to prevent possible misuse or distortion of outcomes. The rapid development and wider accessibility of artificial intelligence technologies may encourage more instances of dishonest practices among users. The development of educational programs aimed at raising awareness of ethical issues related to the use of artificial intelligence is crucial for preparing students and professionals to ethically utilize these technologies.

Advantages of Applying Artificial Intelligence to Foster Academic Integrity:

1. The development of artificial intelligence raises new questions regarding academic integrity, casting doubt on the ethical standards of using automated information processing tools.

2. Employing artificial intelligence in academic processes necessitates stringent measures to ensure the originality of work and combat plagiarism.

3. Ethical utilization of artificial intelligence in the academic realm requires education and awareness among both students and educators regarding its proper application and consequences.

4. The use of artificial intelligence can facilitate plagiarism detection processes and support academic integrity by providing tools for analyzing and verifying authorship of works.

5. Sustaining academic integrity in the era of artificial intelligence calls for a balance between technological advancement and upholding high standards within educational institutions.

The application of artificial intelligence in an academic environment, despite its advantages, also has its drawbacks that can impact academic integrity:

1. Artificial intelligence can generate text or content similar to the original, complicating the process of detecting plagiarism and making it more challenging to identify.

2. AI systems, although highly advanced, can still make mistakes in recognizing the originality of works or authorship due to a lack of context or insufficient databases for comparison.

3. Unscrupulous users may utilize AI to manipulate data or generate pseudo-original materials, potentially undermining trust in academic sources.

4. Not all educational institutions have equal access to cutting-edge AI technologies, leading to disparities in the ability to control and detect plagiarism.

5. The application of AI in the context of academic integrity raises ethical questions concerning responsibility for using these technologies and their potential negative consequences.

The advancement of artificial intelligence technologies demands attention to the ethical aspects of their implementation in academic processes. This necessitates the development of clear ethical standards and an understanding of potential risks. Considering the complexity of detecting plagiarism in works, there is a need to strengthen and modernize the means of controlling the originality of academic creations in the context of AI usage. It is crucial to establish educational programs for students and professionals to equip them with knowledge about the ethical use of AI in academic settings.

Key words: academic integrity, artificial intelligence, plagiarism, ethical standards.

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ETHICAL EXPERTISE OF BIOMEDICAL AND CLINICAL TRIALS: EXPERIENCE AND PERSPECTIVES

Nataliia Boichenko, Sergii Savoliuk, Nataliia Serohina

Shupyk National Healthcare University of Ukraine

n_boychenko@nuozu.edu.ua, savoluk@meta.ua,

nataliseryogina79@gmail.com

In the current conditions of scientific and biomedical technological development, ethical and bioethical expertise of research in the fields of biology and medicine is becoming increasingly demanded and necessary. The requirement for independent monitoring of such research in specific areas is an integral component of science regulation. In his work «The Sociology of Science Theoretical and Empirical Investigations» Robert K. Merton highlighted the need for the application of certain guiding norms and prescriptions in science. These regulatory features were derived by Merton, as he understood science as a social institution. He introduced the widely used concept of the scientific ethos and outlined the fundamental requirements and imperatives for scientific research (Universalism, Communism, Disinterestedness, Organized Skepticism.) [1]

Conducting scientific research in higher education institutions should unquestionably be based on academic values and principles of academic integrity. The ethical expertise at our university has its history: in 2004, the Ethics Committee was established, and since 2014, the Ethics Commission for the examination and evaluation of ethical and legal aspects of research projects conducted in departments and clinical bases has been in place. In 2023, there was a rotation in the composition of the Commission, accompanied by the delineation of new goals and tasks.

Currently, the Commission's experts pay particular attention to adhering to the principles of academic integrity during scientific

research. Commission members provide guidance to applicants to prevent ethical violations in research, such as falsification of empirical data, plagiarism, manipulation of empirical data through the use of inadequate or knowingly manipulative algorithms for statistical analysis, and so on.

We annually conduct an anonymous survey of PhD students engaged in scientific research at our institution. In total, 240 surveys were processed, and average indicators were calculated for each question. The obtained data reveal the following: 220 respondents highlighted the importance of academic integrity issues.

The level of support for academic integrity within the institution was rated on a 10-point scale, with an average score of 8 points.

Respondents evaluated the level of informational support regarding adherence to ethical and bioethical principles in scientific research as sufficient.

However, more than 40% of respondents (96 individuals) emphasized the need for the introduction of a specialized discipline aimed at fostering academic scientific culture and developing written communication skills.

45% of PhD students (108 individuals) indicated that they made amendments to the protocol of biomedical research and informed consent for patient participants after undergoing the relevant expert assessment.

Additionally, 85% of respondents (204 individuals) underscored the importance of reviewing scientific research before its commencement, emphasizing that the key principle is ensuring the rights of patients.

In this context, Ethical Expertise of Biomedical and Clinical Trials appears as an integral component and prerequisite for academic integrity in the field of medicine.

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FORMATION OF FUTURE GRAPHIC DESIGNERS' POSITION REGARDING THE OBSERVANCE OF COPYRIGHTS FOR VISUAL WORKS

Svitlana Borysova

*Ternopil Volodymyr Hnatiuk National Pedagogical University
svitlana.borysova@gmail.com*

Introduction. The creative professional activity of graphic designers usually involves the creation of design objects that visualize information with the aim of its subsequent public distribution. In connection with this, the task arises – to form a clear position for future graphic designers during their training in higher education institutions regarding the observance of copyright and related rights (Ridgley et al., 2020). Future graphic designers must not only respect copyright when using visual elements but also understand the mechanisms of copyright protection for their works. Considering the thesis that it is impossible to create new unique things in the modern world since we all exist in a single world, are under social influences, and when creating subjective or partially new objects, the graphic designer uses sources of inspiration as starting points in the generation of ideas, synthesis of visual elements, it is essential to pay attention to the integrity of their use and take responsibility for the design result. In the same way, both customers of design objects and representatives of businesses that use the projects for profit should be responsible.

Results. The task set before teachers of higher education institutions regarding the purposeful formation of students' ethical and legal attitudes to the use of visual elements in project activities can be solved in different ways (Borysova, 2023; Halak & El-Hajjar, 2019). It should be noted that among them, the discussion of simulated and real situations, taking into account certain aspects of integrity during practical classes in specialized disciplines and

consultations on the implementation of individual projects, demonstrated high efficiency. The most frequent request for discussion recently is the integrity of the use of photographs and illustrations in student projects. Meetings include, for example, copyright protection for images collected on Pinterest boards; the ethics of publishing tutorials on how to remove watermarks from protected images; indicating the authorship of the image, if it is taken from a stock of free photos; differences in the use of stock photos for personal, educational and commercial purposes; what you should know about Creative Commons licenses and tools; the content and number of transformations applied to the source of inspiration to obtain a uniquely different image from the original image; what degree of coincidence with a borrowed idea is a violation of international standards and grounds for starting a legal campaign for copyright protection; the responsibility of the graphic designer, customer and business for the use of images with copyright violations; how to correctly indicate the used visual, its authorship, source of origin in the presentations of completed educational projects; how to protect the copyright of one's own work, especially if this work is created on current topics for public needs in a situation of martial law, etc.

Conclusion. We are aware that the use in the educational process of discussions with students of higher education based on the analysis of precedents, real and imaginary situations, is only part of the general strategy for the formation of a culture of academic integrity, a negative attitude, and zero tolerance for plagiarism in general and, in particular, for visual plagiarism, conscious and continuous compliance with the norms of professional ethics in the field of graphic design.

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Key words: graphic design, object of design, borrowing, visual plagiarism, originality, educational practices, future graphic designer.

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STUDENTS EDUCATION ACADEMIC INTEGRITY IN THE DISTANCE LEARNING CONDITIONS

Tetiana Busarova, Tetiana Hryshechkina

Ukrainian State University of Science and Technology

t.m.busarova@ust.edu.ua, t.s.hryshechkina@ust.edu.ua

Introduction. The realities of modern society and the conditions in which modern academic education exists are rapidly changing. And it can be said with confidence that the education of academic integrity in the conditions of distance (on-line) education is significantly different from the conditions of offline education. It is much more difficult for a teacher to control students' independent performance of tasks, passing of tests and exams. It is unlikely that a first-year student who is informed of academic integrity points will immediately begin to comply with them. Therefore, the task of teachers is to prove to students in various ways that it is better to observe academic integrity than to look for ways to circumvent it.

Materials and Methods. There is an important task of convincing the student from the first days of study in the unquestionable choice of the path of academic integrity. This task becomes much more complicated with distance learning. First of all, the lack of communication between the teacher and the student hinders. And here the appropriate motivation is very important. Education is the basis of intellectual, spiritual and cultural development of the individual. The purpose of education is comprehensive development of a person, his talents, creative abilities. High-quality education is necessary for the self-realization of competences, the education of responsible citizens who direct their activities for the benefit of society to ensure the development of Ukraine. A student can get a high-quality education only if he realizes that only mastering the disciplines prescribed in the educational program and hard work will help to obtain appropriate results. The teacher should not hide the fact that mastering the disciplines while maintaining academic integrity is hard work, but the result will be significant.

A student who violated academic integrity will receive a diploma with minimal knowledge in the specialty and will remain unclaimed. A student who has not violated academic integrity will receive fundamental knowledge that will be the key to his career growth.

Results. Overcoming the problems associated with non-compliance with the principles of academic integrity among education seekers is discussed on various academic platforms and forums. And this is quite true, because the problem is quite complex and multifaceted. But this problem needs to be solved and the role of the teacher comes to the fore here. After all, who, if not a teacher, will be able to convince a student to be guided by the principles of honest learning, that is, to observe academic integrity.

Key words: academic integrity, distance learning, education.

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THEORETICAL FOUNDATION OF A METHODOLOGY TO STRENGTHEN CRITICAL THINKING ON UNMASKING DEEPPAKES

Hanna Chemerys

Zaporizhzhya National University

Anyta.Chemeris@gmail.com

Introduction. The study focuses on Deepfake technology, advocating for a robust methodology to enhance critical thinking amid widespread disinformation and media manipulation. It examines existing approaches, identifies gaps, and formulates effective strategies. The rise of false information poses a serious concern, impacting public discourse, society, education, and democracy. Fake news spreads through social networks, necessitating strategies to promote critical thinking, especially with advancements like Deepfake technology enabling convincing manipulation of visual information. The era is marked by digital disinformation and information warfare, posing significant threats in politics, legal proceedings, terrorism, blackmail, financial markets, and fake news dissemination.

Results. Growing concerns about diminishing public trust in visual content highlight the urgent need for developing critical thinking skills, a crucial defense against misinformation in visual media. This is particularly relevant for countering the impact of misinformation on Ukraine's sustainable development. Despite high-quality deepfakes used in the film industry and advertising, achieving complete naturalness remains elusive, resulting in the uncanny valley effect. When analyzing suspicious videos, special attention should focus on the manipulated object, usually the face. A comprehensive study identified markers of image tampering, contributing to the development of tools and strategies for discerning synthetic media and reinforcing critical thinking in society. Deepfake can give away a lot of signs: excessive pixelisation, defects, fuzzy and blurred image, duplication of elements; blurry outlines; notice the flickering of the

face (one of the obvious things, since some of these videos still look unnatural – this applies to the transitions between the face, neck and hair, which are not always organically combined with each other); unnatural facial expressions, especially when blinking, eyebrow and lip movements; pay attention to the fuzzy inside of the mouth (artificial intelligence is still learning to correctly display the oral cavity, which may result in poor clarity of the image of teeth or tongue during a conversation); detect blinks (so far, most software cannot reproduce a normal human blink) low video quality, which is often used to hide incorrect neural network operation; or vice versa high quality with unnaturally perfect hair or skin; differences in body type, physique, hairstyle and voice from the original; in the most popular solutions only the face is replaced, so it is possible to notice the boundary of the face overlay, differences in shadows, lighting and skin tone.

Conclusion. Amidst the surge of disinformation and escalating sophistication in media manipulation, there is a pressing need to develop a robust methodology for enhancing critical thinking skills. The study emphasizes a comprehensive approach to examining misinformation through synthetically reproduced media. Results underscore the pivotal role of developing critical thinking skills to counter misinformation in visual media, recognizing challenges posed by high-quality deepfakes and identifying key signs for their identification.

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Key words: Deepfake Technology, Artificial Intelligence, Generative Images, Misinformation, Media Literacy, Critical Thinking, Digitalization, Information Warfare, Public Awareness, Synthetic Media Content.

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COMPLIANCE WITH NORMS OF ACADEMIC INTEGRITY WHEN STUDENTS PERFORM PRACTICAL TASKS (PROJECTS) DURING MIXED EDUCATION

Yuliia Dankevych

*V. I. Vernadsky Taurida National University
dankevych.yuliia@tnu.edu.ua*

Introduction. The issue of compliance with the norms of academic integrity in the learning process, in particular, the performance of practical tasks (projects) by students during blended learning, is currently quite relevant, as evidenced by the repeated occurrence of the subject in professional and scientific literature. The mixed form made it possible to complete the task in an online format, when the practical task is downloaded in Google Class. However, now, after the update of Google Classroom functions, the function of checking the originality of the content is relevant.

Basic outline of the material. Digitization of most of the documents, their functioning in electronic form significantly simplified search access to information. In this regard, the problem of citation and compliance with authorship when students perform certain types of work has gradually become more relevant. That is why, in recent years, coursework, bachelor's and master's theses have been checked through online systems of academic integrity. However, borrowings and citations are available not only in theses. So, the performance of practical tasks can be related to writing an essay or writing an analytical note. It is in

such cases that entire or certain sections of already published scientific texts are used without indicating the source.

Of course, quite often when checking works it happens that students repeat citations, use structurally identical sentences borrowed from Ukrainian-language sources. Then the justification that the work is not independent is greatly simplified. Checking for integrity can be significantly complicated when translating sources from a foreign language into Ukrainian, again, without indicating the source. Another fairly common type of assignment of texts is the full or partial use of presentation slides. In such cases, it is sufficient to change the background of the slides, modify the text, leaving the table or graph.

As a result, most of the available material today is amenable to technical means of information processing, which help to encrypt an entire article or textbook directly during download. Choosing a citation blocking feature depends on the goal you want to achieve. That is, you can familiarize yourself with the material, quote it in the list of sources, but not appropriate it.

Conclusion. In addition to the plagiarism check function mentioned at the beginning, it may be appropriate to introduce separate topics into lectures about the need to observe academic integrity, giving examples of how it happens in the world's higher education institutions of developing author's training courses.

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Key words: Academic integrity, plagiarism, practical tasks (projects), citing texts, presentations.

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ARTIFICIAL INTELLIGENCE VS. ACADEMIC INTEGRITY: WAYS OF COLLABORATION FOR INCLUSIVE EDUCATION

Oleksandr Dluhopolskyi

*West Ukrainian National University, WSEI University, Poland
dlugopolsky77@gmail.com*

Introduction. One of the main tasks of modern online education is to create a comfortable environment in which each student is able to realise their own potential for successful entry into the labour market. This goal can be achieved through the introduction of modern, intuitive, inclusive and adapted ways of engaging students in the educational process, regardless of their learning abilities, developmental features or socio-economic status. In this regard, artificial intelligence can become not only the so-called “enemy of academic integrity” but also an assistant in content creation.

Results. In the context of asynchronous learning, it is quite useful to use not only presentation materials, but also mini-video lectures, in which the teacher provides students with a significant amount of information in a sequential presentation, subordinated to a single topic. To ensure the inclusiveness of the lecture material and maintain interest, it is important to keep in mind the optimal pace of the lecture and the emotionality of the presentation (as a rule, videos should be up to 20 minutes long). Such videos with high-quality content work well to ensure physical inclusion, linguistic, emotional and psychological, territorial and temporal inclusion

Since for students with hearing impairments, for example, the most important information channel is visual perception with an emphasis on the lecturer’s articulation, video lectures should include subtitles and translation into English. Subtitling is the process of converting the audio content of a television broadcast, webcast, video of various lengths, or a real event into text and displaying it

on a screen (monitor). The most common online programs for automatically adding subtitles are Kapwing, YouTube, Microsoft Translator, and many others. The absence of sound, unclear speech in a video, or hearing impairment – all of these cases add value to video presentations with subtitles. It should be borne in mind that automatically generated subtitles are not always high-quality transcription of the audio track, and they need to be carefully checked and corrected before being uploaded to the learning platform. An alternative is to have the lecturer manually subtitle the video. Such subtitled video lectures eliminate auditory, visual, verbal, emotional, territorial, gender, and time difficulties in student learning.

A modern tool for generating videos on a given topic is InVideo (<https://ai.invideo.io/workspace>), which helps to create short videos using artificial intelligence. Such videos can be incorporated into presentation materials to make the material presented more clear (Fig. 1).

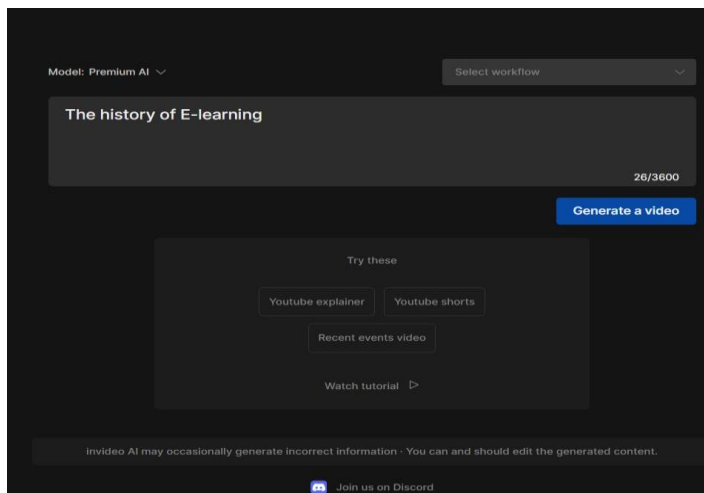


Fig. 1. An example of content generation in InVideo

Conclusion. The use of artificial intelligence tools to improve the visualisation of materials and provide creative tasks for students

allows them to use the achievements of the modern digital world to their advantage and with academic integrity. Ultimately, it all depends on the teacher's skill and ability to motivate students to work hard and creatively using a powerful arsenal of digital tools.

Key words: artificial intelligence, academic integrity, InVideo.

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FAIR USE OF GENERATIVE AI IN THE PREPARATION OF SCIENTIFIC PUBLICATIONS

Alexey Dubinsky, Aurea Simon-Soro

University of Seville, Spain

dubinsky@ukr.net

Millions of writers actively engage with generative AI systems for text composition, including students and scientists. It becomes important to raise requirements that govern the equitable and dignified usage of such systems.

This year increased the number of publications on chatGPT usage in scientific writing [1–3]. There are some cases in which the usage of such systems was the reason for the termination of academic affiliations [4]. Conspicuously unethical cases, such as SCIGen paper generator, are, of course, not considered herein.

A guiding principle for delineating the judicious application of intelligent systems emerges through the juxtaposition of the philosophical concepts of form and content. These notions trace their origin to the classical German philosophy of Kant and Hegel and have found practical validation in contemporary contexts, notably exemplified in the formalization of web standards by the World Wide Web Consortium (W3C). Distinct standards, such as HTML and XML for content and CSS for document design. Other cases delineate the separation of form and content, thus engendering effective

practices in usability and software design. In addition, this paradigm has further facilitated the formulation of recommendations for Minimum Viable Product (MVP) in start-up contexts.

We believe that the judicious application of intelligent systems encompasses tasks that pertain solely to the manipulation of form and not content. Such tasks include noncritical, noncreative, technical, and ancillary functions, such as style editing, text translation, and annotation. Instances of these activities, which are delegate-able, have historically been acknowledged in the scholarly community with expressions of gratitude to contributors for their input.

In contrast, unwarranted utilization may involve the incorporation of external ideas, statements, or textual fragments into the main body of work. However, it is imperative to consider the stage of work and the depth of processing. Blindly replicating generated text is unequivocally discouraged. A more justifiable scenario arises when a generative system aids in introductory background exploration or enhances the quality of the text. Dialogue with an intelligent system to identify issues, errors in argumentation, and similar concerns is considered acceptable. Collaborative interaction with an intelligent assistant during the drafting process (instead of a live interlocutor), is also deemed permissible.

Contemporary large linguistic models, trained on an extensive corpus of internet-available documents, inherently encapsulate a substantial repository of human knowledge. These models facilitate the efficient extraction and application of this knowledge through a user-friendly interface. Authors who try to use generative AI must rigorously verify the veracity of ideas and statements emanating from dialogues, alongside the judicious selection of pertinent bibliographic sources. Large-language models are acknowledged to exhibit shortcomings such as false statements, instances of "hallucination," and the generation of fictitious bibliographic references.

Thus, the ethical use of generative systems remains contingent on the conscientious decisions of the authors. Consequently, the imperative for an intelligent automated review system for scientific articles emerges as a necessity, serving to sift through and identify substandard and unwarranted papers.

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Key words: generative AI, artificial intelligence, chatGPT, scientific writing, academic integrity, scientific publications, form-content distinction

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BENEFITS AND RISKS OF IMPLEMENTING ARTIFICIAL INTELLIGENCE IN EDUCATION

Oleh Forostiuk¹, Inna Forostiuk²

¹*Academy of Advocacy of Ukraine,*

²*National University of Food Technologies*
forostiuk@ukr.net

The development of artificial intelligence (AI) will play an increasingly crucial role in human lives in the near future. Its impact will be felt in various fields, including education. A wide range of possibilities for using AI opens up before us, particularly in the

creation of systems that contribute to the effective organization and improvement of educational processes. Today, we can already identify perspectives and directions for such development. The road map includes the implementation of intelligent systems capable of analyzing the skills, abilities, and needs of students automatically. This will assist in accurately selecting personalized materials, tasks, and recommendations, ultimately contributing to the creation of optimal learning conditions for each student.

Intelligent systems will be able to track the progress of each student. This will enable teachers to adjust the learning process, improve teaching methods, and efficiently allocate resources and efforts for further education.

The future implementation of electronic platforms for testing and evaluating various aspects of learning will only expand. Programs and tools are already being developed for the automated assessment of non-standard tests, complex projects, etc. With the help of AI, the analysis of textual material will be simplified. Machine learning models will be able to consider various aspects of creative tasks, evaluate argumentation quality, detect plagiarism, and provide advice on improving student work. Equally important is the implementation of chatbots and virtual assistants based on intelligent systems. They can provide support to students, answer their questions, assist in overcoming specific challenges, and promote active learning.

A promising direction in education is the creation of adaptive tasks aimed at improving the quality of learning and ensuring the effective development of each student. This approach takes into account the unique abilities and educational levels of students, adjusts the pace of learning to individual capabilities, provides additional exercises, and assists in mastering more complex material. The application of data analysis technologies allows the identification of students' strengths and weaknesses to propose tasks that best match their level. An effective adaptive task system should provide diverse teaching approaches, making use of interactive audiovisual and other educational tools to ensure optimal clarity. Tailoring tasks to individual interests have the potential to boost students' motivation, encourage active engagement in learning, and foster the development

of critical thinking, analysis, and problem-solving skills. The complexity of these tasks will depend on the student's increasing proficiency.

In the context of using AI in education, there are also risks that require attention and development in this field. Automation may lead to job losses for some education professionals. The collection and processing of a large amount of personal data have already posed a threat to the privacy and security of students and educators. Excessive automation could result in the loss of human interaction and pedagogical empathy, both of which are crucial in the educational process. The adoption of innovations will necessitate new skills for teachers and students, potentially causing challenges in adapting to a new educational environment.

The implementation of AI is expected to widen disparities in accessing quality education. This is primarily due to insufficient funding, variations in technological resources, and limited internet access, particularly in rural or war-torn areas.

So, the use of AI in education holds significant potential for improving learning processes, providing personalized education, and automating assessment. However, it comes with important challenges, such as the possibility of job loss, concerns regarding the security of personal data, and difficulties in adapting to new technologies, which require careful consideration and the resolution of respective issues.

Key words: artificial intelligence, automated assessment, academic integrity, adaptive tasks, virtual assistant.

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CURRENT AND FUTURE PROBLEMS OF DATA INTEGRITY, QUALITY, AND SCARCITY

Vasyl Gorbachuk, Tamara Bardadym, Sergiy Osypenko

*V. M. Glushkov Institute of Cybernetics of the National Academy
of Sciences of Ukraine
VGorbachuk@nas.gov.ua*

Introduction. While Open Science is motivated by (big) data integrity, the quality scientific data might be exhaustible resources: data is the new oil [1]. A noteworthy analysis is the growing size of datasets used in machine learning (ML) for natural language processing and computer vision. To extrapolate such growth, one can use historical growth rates or start from dataset sizes that are optimal for projected computing resources (budgets) of the future.

Results. A study of data growth, based on estimates of the total stock of unlabeled data available on the Internet over the next decades, indicates a relatively rapid depletion of the stock of high-quality language data (likely by 2026) and a slow depletion of the stock of low-quality language data (likely by 2040) and image data (probably by 2045). Then the current trend of ever-expanding ML models that rely on very large datasets may slow down under modest increases in data quality (efficiency) and new data sources. The main factors that determine the performance of ML models are training data, algorithms, computations. Current understanding of the scaling laws by Open AI [2] and DeepMind [3] suggests that future ML capabilities will depend heavily on the availability of large volumes of data for training large models. EpochAI compiled a database of over 200 training datasets used in ML models and estimated the historical growth rates of datasets for language and vision models [4]. To learn about the limits of such rates (trends) in the future, EpochAI has developed probabilistic models for estimating the total volume of language and image data that will be available during 2022–2100. Based on the predictions of trends in dataset sizes in these models, it

is possible to estimate the limits of such trends due to exhaustion of the data available. Data storage as the size of the Internet and the total amount of information available was estimated by the LightWave Networks Research Department and the Mathematics and Cryptography Research Department of AT&T Labs [5], Cyveillance Company [6], University of Berkeley [7].

Conclusion. The future scarcity of high-quality scientific data raises the issues of data values and data markets for quality data as exhaustible resources. On other hand, Science is becoming the new transdisciplinary industry.

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Key words: datasets, extrapolation, machine learning, Internet, training models.

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**DEVELOPING A FAIR EDUCATIONAL ENVIRONMENT
AND QUALITY CULTURE AT LESYA UKRAINKA VOLYN
NATIONAL UNIVERSITY**

Olena Halytska

Lesya Ukrainka Volyn National University

halytska@ukr.net

Introduction. In this abstract, we focus on the experience of my alma mater in promoting and implementing academic integrity among academic staff and higher education seekers.

Results. Thanks to the implementation of the project "Initiative for Academic Integrity and Education Quality", in which our university has been a participant since 2020, a series of initiatives have been launched: regular surveys of students, faculty, and university administration; annual Academic Integrity Week events at faculties since 2020; moderation of workshops, seminars, webinars; the use of programs to check master's theses for textual matches (StrikePlagiarism and Unicheck); lectures on "Academic Writing and Rhetoric" and "Academic Integrity."

A memorable online meeting took place on April 7, 2021, with members of the International Center for Academic Integrity, Camilla Roberts and Ann Domorad, who presented the Center and the fundamental values of academic integrity.

In December 2021, our University made a significant contribution to Ukraine's advancement in the Council of Europe, as Lesya

Ukrainka Volyn National University received recognition from the Council of Europe's Department of Education in the competition "Council of Europe Best Practice Programme in Promoting Academic Integrity". The prestigious award ceremony took place in Strasbourg, France. It's worth noting that Lesya Ukrainka Volyn National University is the only university among 60 project participants of "Academic IQ" that was awarded and acknowledged as the best in the category of "University Education Quality Assurance Practices".

On October 5, 2022, Dr. Tricia Bertram Gallant, the Academic Integrity Director at the University of California, San Diego, during her plenary presentation titled "Presentation of the compilation of good practices in promoting academic integrity" at the Conference on Promoting Academic Integrity held at Erasmus University Rotterdam in the Netherlands, also positively acknowledged Lesya Ukrainka Volyn National University for its best practices in promoting academic integrity.

The webinar on academic integrity featuring the University of Arkansas (Fayetteville, USA) on February 23, 2022, with speakers Professor Dr. Paul Cronan and Executive Director of the Office of Academic Initiatives and Integrity at the University of Arkansas, Chris Bryson, created a significant resonance.

As part of the commemoration of the International Day of Academic Integrity at Lesya Ukrainka Volyn National University, a notable event this year was a lecture by Professor Denise Hawkes from the University of England Raskin (Cambridge, UK) on the topic "Personal Brand and Academic Integrity" for our university's education seekers and faculty on October 19, 2023.

Another enriching event was the meeting with American and Ukrainian scholars discussing "Experience of Ukrainian Scholars' Research at Purdue University (USA)" held on May 15, 2023.

More details about these and other activities can be found in the handbook (Halyska, 2023, pp. 62–64) created for education seekers at the undergraduate level, for whom I have been teaching the course of the same name since 2020.

The entire academic community of our university actively participates in these and other integrity initiatives. Among students,

the most popular activities included creating scrapbooks, poster presentation contests, case-solving, debates, academic essay competitions, and business games focusing on academic integrity. Surveys and questionnaires were among the least favored activities.

Conclusion. The experience of foreign and domestic universities is exceptionally valuable to us and is utilized to enhance the policy of academic integrity at our university.

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Key words: academic integrity, education quality, plagiarism checking program, surveys.

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APPLICATION OF “CHATGPT” IN WRITING SCIENTIFIC PAPERS

Valeriia Hansetska

*Educational and Scientific Institute of Law of Taras Shevchenko
National University of Kyiv
krykovesss@gmail.com*

Introduction. AI-powered programs have become an integral part of our lives: we interact with artificial intelligence when communicating with a bank, a store, etc.

The rapid development of artificial intelligence can be traced back to 2016, but the broadest discussion dates back to 2021, when ChatGPT was introduced. ChatGPT has pushed the capabilities of chatbots to a whole new level, as it can answer almost any user request. At the same time, it is accessible to an indefinite number of people.

This invention of mankind is fascinating: both in a positive and negative sense. On the one hand, ChatGPT provides access to an unlimited range of functions. Such functions have caused a lot of disputes in the community of scientists and discussions about the use of ChatGPT and its analogues in writing scientific papers.

The main topic of such disputes and discussions was the question of whether the use of ChatGPT is plagiarism.

Results. ChatGPT offers researchers:

- large-scale search of sources on any topic and in different languages

- fast and high-quality translation (when using foreign sources);

- analysis of a large amount of information and drawing conclusions;

- access to statistical data.

If we interpret the above definition from a formal point of view only, the use of ChatGPT will not be considered plagiarism, since plagiarism consists of two main parts: copying someone else's text and publishing the text under your own name without providing a link to the original author.

ChatGPT modifies the text at the user's request, so it is not a direct copying of the text, and also provides the sources from which ChatGPT takes the information. Thus, technically, the text written by ChatGPT is not a plagiarized text.

However, the main problem is the identification of text written by ChatGPT. Currently, anti-plagiarism programs do not sufficiently identify text written by ChatGPT.

For example, anti-plagiarism programs Turnitin and iThenticate identified 70 percent of the originality of the works written by ChatGPT. Out of 50 essays written by ChatGPT, only 10 showed unambiguous signs of plagiarism [1, p. 8–9].

Currently, the most effective way to detect a text written by ChatGPT is to ask ChatGPT itself whether a particular text or an excerpt of it is written by ChatGPT. It detects texts written by it (even significantly changed) with a rate of 92 percent [1, p. 10].

Conclusion. Summarizing all of the above, ChatGPT and its analogs are definitely very useful and important inventions of the

21st century. These chatbots open up new horizons and opportunities for analyzing large amounts of information, access to almost all scientific sources of the world community.

However, ChatGPT also offers quite controversial functions, including writing texts, which would certainly be considered plagiarism and a violation of academic integrity. The main goal of scientific activity is to find solutions to problems and discuss them. Currently, artificial intelligence uses only raw data, without the ability to create something completely new that has not been invented before. Using ChatGPT to write texts actually devalues this goal, as such a text does not offer any scientific novelty in its work.

Therefore, ChatGPT should be used by the user only as an additional tool for searching for information, not as a way to analyze such information.

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Key words: chatGPT, researcher, text, science, plagiarism, essay.

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ARTIFICIAL INTELLIGENCE AND ACADEMIC INTEGRITY: INVOLVING AI TO IMPROVE ORAL COMMUNICATION SKILLS IN ENGLISH

Sevda Huseynova

Baku Engineering University, Azerbaijan

shuseynova@beu.edu.az

Language is creative and productive by nature, a person using it can set up an infinite number of sentences and express thoughts (Huseynova, 2015). However, nowadays using Artificial Intelligence (AI) to improve oral communication skills in English is a promising and innovative approach that can positively impact academic integrity. Here are several ways AI can be involved in enhancing oral communication skills while upholding academic integrity:

Speech Recognition Technology utilize AI-driven speech recognition tools to provide real-time feedback on pronunciation, intonation, and fluency. These tools can help students practice speaking and receive immediate corrective feedback, enhancing their language proficiency.

Interactive Language Learning Platforms implement AI-powered platforms that simulate conversational scenarios, allowing students to practice communication in a variety of contexts. AI can adapt to individual learning styles, providing customized exercises to address specific weaknesses in oral communication. Consequently, Interactivity makes lessons more engaging and facilitates hands-on learning (Huseynova, 2023).

Virtual Reality (VR) Simulations integrate AI into VR simulations to create realistic and immersive language environments. Students can engage in virtual conversations with AI-driven characters, practicing communication skills in a controlled and supportive setting while **Automated Assessment and Feedback** develop AI algorithms to evaluate oral presentations based on

predefined criteria. This ensures consistency and objectivity in assessment while providing detailed feedback to students on areas for improvement.

Data Privacy and Security implement robust data privacy measures to protect sensitive information related to students' language learning activities. Clearly communicate how AI is used and ensure compliance with relevant privacy regulations.

Training for Educators and Translators provide training for educators on integrating AI tools into language learning environments. As is known, translation is ultimately a human activity which enables human beings to exchange ideas and thoughts regardless of the different languages they use (Huseynova, 2021). Nowadays, AI is integrated into teaching and translating processes, they should understand how to interpret AI-generated feedback and use it to guide their practices.

By incorporating AI into language learning initiatives, academic institutions can enhance oral communication skills in English while upholding principles of academic integrity. Regularly evaluating and refining these AI-driven approaches ensures they align with ethical standards and contribute positively to students' language proficiency.

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Key words: AI, oral communication skills, innovative approach, VR, virtual conversations

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QUALITY ASSURANCE OF THE TRAINING OF FUTURE MASTERS: CHALLENGES TODAY IN THE CONTEXT OF ACADEMIC INTEGRITY

Volodymyr Karpenko¹, Hanna Karpenko²

¹National Defence University of Ukraine

*²Institute of Law and Public Relations, Open International University
of Human Development "Ukraine"*

vskarpenko88@gmail.com, _karpenko81anna@gmail.com

Introduction. The academic integrity of future masters is an important topic for modern education and science in Ukraine against the background of the full-scale military invasion of the Russian Federation. Today's challenges to academic integrity are related to openness to scientific results, globalization, competition, corruption, the introduction of information technology and the use of artificial intelligence in both business and education.

Results. The Ukrainian regulatory legislation, more precisely the Law of Ukraine "On Education", provides for the observance of academic integrity by students of education [3]. In turn, the Law of Ukraine "On Higher Education" defines the concept of "academic integrity", which is a necessary condition for achieving results during training and carrying out scientific activities by participants in the educational process [2]. In addition, in ensuring the appropriate quality of the training of future masters, academic integrity is a

necessary condition for the implementation of appropriate research activities, which in turn is a mandatory component of educational and scientific programs for the training of masters in Ukraine and is provided for at least 30% [2].

Very convincingly vividly highlights the peculiarities of academic integrity of A. Kuzmenko. In her work, the author draws attention to the need to observe the seven principles and principles of the culture of academic integrity [1, p. 104].

Taking into account the requirements listed above for the training of higher education applicants and the conditions of martial law in Ukraine, which clearly affects the training of future masters, the requirements should be increased and the conditions for performing scientific activities in higher education institutions of Ukraine should be revised.

Conclusion. Adherence to academic integrity by future masters is an important aspect of their professional development and subsequent scientific reputation. We believe that the main conditions for improving the quality of master's theses in institutions of higher education are:

- an organizational component in the preparation of master's theses, which should be aimed at openness and accessibility;
- revision of academic disciplines and increasing the level of motivation of future master's students for scientific activity in compliance with academic integrity and intellectual property rights;
- implementation of the practice of obtaining acts of implementation in the educational process of master's theses materials and certificates of plagiarism verification of future master's theses prepared for defense.

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Key words: academic integrity, higher education, students of higher education, future master's degrees, conditions of training, quality of training.

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ARTIFICIAL INTELLIGENCE AND SCIENTIFIC RESEARCH

Olena Khromchenko

Odessa I. I. Mechnikov National University

okne4morh@gmail.com

Introduction. In the dynamic landscape of academic research, the intersection of integrity, open science, and artificial intelligence (AI) stands as a pivotal crossroads, shaping the future of scholarly pursuits and transcending traditional boundaries. As technological advancements redefine the research paradigm, it becomes imperative to scrutinize the ethical implications and transformative potential of this convergence.

In the era of AI, researchers face the dual challenge of navigating the complexities of advanced technologies while upholding the highest ethical standards. The potential for bias in algorithms, lack of transparency in AI decision-making processes, and the rapid pace of technological evolution present unprecedented challenges to maintaining integrity in academic research.

Results. Open science, characterized by transparency, collaboration, and accessibility, represents a paradigm shift in how knowledge is created and disseminated. It emphasizes the sharing of research outputs, methodologies, and data, fostering collaboration across disciplines and geographical boundaries. The ethos of open science aligns with the democratization of knowledge, promoting inclusivity and innovation.

The advent of digital technologies has propelled open science forward, providing researchers with tools and platforms to share their work openly. However, the integration of AI into the research landscape introduces a complex dynamic. While AI can enhance collaboration and facilitate data-driven discoveries, concerns arise regarding the proprietary nature of AI algorithms, potential biases embedded in AI models, and the implications for open and collaborative research practices.

AI's transformative impact on academia is undeniable, revolutionizing research processes, data analysis, and even teaching methodologies. AI applications range from predictive analytics in student performance to data mining for research insights. Yet, as AI becomes increasingly entwined with academic practices, ethical considerations come to the forefront.

The ethical dilemmas posed by AI in academia include issues of bias in algorithms, lack of transparency, and the responsible use of AI in decision-making processes. Striking a balance between leveraging the power of AI for innovation and safeguarding against unintended consequences becomes paramount.

As academia navigates this crossroads, a framework for ethical integration emerges as a necessity. This framework should encompass guidelines for responsible AI research practices, transparency in algorithmic decision-making, and a commitment to upholding the principles of open science. Collaboration between researchers, institutions, and policymakers is essential to developing and implementing these ethical guidelines effectively.

The challenges posed by the convergence of integrity, open science, and AI extend beyond academia. Societal implications include considerations of data privacy, the ethical use of AI in various

sectors, and the broader impact on knowledge dissemination and access.

Conclusion. As we stand at the crossroads of integrity, open science, and artificial intelligence, the choices made today will reverberate through the fabric of academia and society. It is imperative that we approach this intersection with a commitment to maintaining the highest ethical standards, fostering collaboration, and leveraging the transformative potential of AI responsibly.

By embracing the challenges and opportunities presented at this crossroads, academia can lead the way in shaping a future where technological advancements, ethical considerations, and the principles of open science converge harmoniously. The journey ahead requires a collective commitment to forging a path that upholds the integrity of research, promotes open collaboration, and harnesses the power of artificial intelligence for the betterment of knowledge and society at large.

Key words: AI, integrity, technology, science, methodology.

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THE IMPLEMENTATION OF AI IN ACADEMIC ROUTINE

Olena Koliasa

Drohobych Ivan Franko State Pedagogical University,

Odesa National Maritime University

olenakoliasa@gmail.com

The mutual benefit of the human-AI relationship in this system is obvious. In order to prepare translators for successful interlingual communication in the conditions of digitization of most types of human activity, it is necessary to consider the issue of changes in the content of translator education, carefully and comprehensively which

include not only effective dialogue between people (translator) and AI (automatic translation programs) within the framework of the translation binomial and features of electronic media.

It is necessary to clarify and supplement the content of the educational component of a translator in the digital era, which involves, first of all, the introduction of new disciplines aimed at both the development of new competencies and the improvement of previously acquired ones in the secondary general education system, in particular: professional "translated reading", "home" text processing, post-machine editing of texts, search, processing and verification of information in the "big data" system, etc.

Currently, so-called post-editing is used, that is, editing of texts translated by machine translation programs. In order to clarify the content of translator training, it is also necessary to determine the areas of interlanguage communication that are most likely to be automated in the near future. This involves a careful study of the feasibility of including in the educational program the development of sectoral translation skills (legal, medical, technical, etc.), based on the assimilation of complexes of special terminology, in order to establish the most effective balance between memorizing and searching for linguistic information.

Some new algorithms can be developed and here there some ways of its implementation in academic process:

AI-powered language learning platforms offer personalized learning experiences. These tools analyze the learner's strengths and weaknesses to tailor lessons accordingly, improving language skills in translation-specific areas like vocabulary, grammar, and idiomatic expressions.

AI-driven machine translation tools like Google Translate, DeepL, and Microsoft Translator provide immediate translations for various languages. While not perfect, they assist in understanding texts quickly, allowing students to focus on nuances and context rather than basic translation.

Computer-Assisted Translation (CAT) tools with AI capabilities, such as SDL Trados, memoQ, or Wordfast, use translation memory databases to store previously translated segments. This can help

students maintain consistency and efficiency in their translations, especially when working on large projects or with repetitive content.

AI helps in building and managing terminology databases. Tools like Sketch Engine or SDL MultiTerm use AI algorithms to suggest relevant terminology, aiding students in maintaining consistency and accuracy across translations.

AI-driven tools analyze cultural nuances and context, supporting students in understanding idiomatic expressions, cultural references, and colloquialisms that are crucial in translation accuracy.

AI-driven quality assessment tools like Grammarly or ProWritingAid assist in proofreading and editing translations. They can help identify grammatical errors, suggest improvements, and enhance the overall quality of translated content.

Academic programs include modules or courses on AI-driven translation technologies. Students can learn how to effectively use these tools, understand their limitations, and harness their capabilities to improve translation efficiency and accuracy.

Academic training also covers ethical considerations related to AI in translation, such as the responsibility of translators in ensuring the accuracy of AI-generated translations and maintaining professional standards.

While AI greatly assists in the academic training of translators, it's crucial for students to complement their learning with deep language understanding, cultural immersion, and critical thinking skills. This combination allows translators to leverage AI as a powerful tool while adding their human expertise in ensuring accurate, contextually appropriate translations.

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RESEARCH INTEGRITY CHALLENGES IN HIGHER EDUCATION

Kseniia Kugai

*Kyiv National University of Technologies and Design
kugaj.kb@knuud.com.ua*

Introduction. Research integrity is the foundation of the scientific enterprise and plays a central role in the pursuit of knowledge within higher education. The abstract studies the complex array of challenges associated with maintaining research integrity within the framework of higher education establishments. The primary objectives of this work are to comprehensively explore these challenges, examine their outcomes, and propose potential avenues for mitigation.

Plagiarism. Plagiarism, the unacknowledged use of another person's work, is a pervasive challenge in research integrity within higher education. Scholars, faculty, and students often fail to properly attribute the intellectual contributions of others. This unethical practice can significantly undermine the credibility and trustworthiness of research, with consequences extending from academic penalties to damaged professional standing.

Data Fabrication and Falsification. Data fabrication and falsification represent another critical issue in research integrity. Researchers may succumb to the temptation of manipulating or fabricating research data to align with their desired outcomes. Such misconduct can lead to misleading results, negatively affecting the advancement of knowledge and undermining public trust in higher education institutions.

Conflict of Interest. Conflicts of interest pose a substantial challenge to research integrity. In higher education, individuals may be influenced by financial interests, personal relationships, or external affiliations that compromise the impartiality of their research. These

conflicts can lead to biased research outcomes and hinder the objective pursuit of knowledge.

Ethical Oversight and Training. Many higher education institutions struggle with maintaining reliable ethical oversight and providing comprehensive research integrity training. Inadequate oversight may allow unethical behavior to persist, while insufficient training may leave researchers and students poorly equipped to navigate complex ethical dilemmas.

Results. The research findings emphasize the need for comprehensive strategies to address research integrity challenges in higher education. Table 1 presents a summary of the key findings, illustrating the prevalence of these challenges and their potential consequences.

Table 1
Summary of Research Integrity Challenges in Higher Education

Challenge	Prevalence	Consequences
Plagiarism	Widespread	Academic penalties, reputational damage
Data Fabrication/Falsification	Occasional	Misleading results, loss of public trust
Conflict of Interest	Common	Biased research, erosion of objectivity
Ethical Oversight/Training	Inadequate	Proliferation of unethical behavior, confusion

Conclusion. In conclusion, research integrity is a cornerstone of the academic enterprise within higher education institutions. The challenges associated with plagiarism, data fabrication and falsification, conflicts of interest, and ethical oversight and training present substantial obstacles to the pursuit of knowledge and the maintenance of public trust. Addressing these challenges requires a multifaceted approach, encompassing robust institutional policies, enhanced ethical education, and a cultural shift towards greater transparency and accountability. Further research is necessary to

explore the effectiveness of specific interventions and to develop a deeper understanding of the underlying factors contributing to research integrity challenges in higher education. By acknowledging and addressing these challenges, higher education institutions can promote a culture of academic integrity and ensure that the pursuit of knowledge remains principled and trustworthy.

Key words: research integrity, higher education, plagiarism, data fabrication, ethical misconduct, academic misconduct, academic integrity, research ethics.

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PROMOTION OF ACADEMIC INTEGRITY AT UNIVERSITY

Mariia Kuleshir

Kyiv National Linguistic University

maria_kuleshir@ukr.net

The issue of academic integrity is gaining more and more weight and significance in modern educational space of both Ukraine and the world. In Ukraine, many effective measures are taken to spread and implement the ideas of academic integrity. It might seem at first glance that the phrase ‘academic integrity’ speaks for itself meaning the requirement and need to be honest in academic activities, that is, all participants in the educational process, both students and professors, perform their duties honestly and conscientiously. However, the educational process is complex and multifaceted, moreover, educational activities are gradually but steadily becoming more complicated and diversified. In addition, higher education has long ceased to be a privilege, an asset of the elite part of society; on the contrary, a university diploma has actually become a mandatory and necessary document in the portfolio of a young person who is building a successful career. The availability of higher education, its

mass character, as well as the dynamism of all spheres of human life, the constant introduction of new educational technologies and tools account for the fact that the university responds effectively and flexibly to the needs and challenges of the time, and accordingly it is constantly in the process of creation, generation, production, adaptation, active creative search. This paradigm of creativity and constant movement forward, innovativeness and transformations, openness to life and people has extremely many advantages, on the one hand; but it can create prerequisites for some destabilization and perhaps even chaos, on the other hand. Therefore, there is an urgent and categorical imperative urgent need for a system of measures and tools to ensure a proper quality in educational process, which would be based on the principles of academic integrity.

In Ukraine, in particular, universities design a special section entitled 'Academic integrity' on their official websites. My attention was drawn to the website of Hryhoriy Skovoroda University in Pereyaslav. The 'Academic integrity' section offers several rubrics, such as: 'Basic concepts', 'Normative documents', 'Useful information', 'Academic integrity newsletters', 'Video materials', 'Video materials 'Short tips for students' from the project Academic IQ initiative'. It is immediately noticeable that the rubrics quite fully and comprehensively represent the complex system of academic integrity and highlight its main aspects. The column 'Academic Integrity Newsletters' is particularly interesting. Up till now, 29 issues of newsletters are located here. Issue 1 is dated November 2019, and Issue 29 was published in December 2022. Valuably, these newsletters cover topics relevant to teaching staff as well as undergraduate and graduate students. The texts are written clearly and comprehensibly. At the same time, one feels that the authors of this useful project are friendly and really care about providing as comprehensive and thorough information as possible on this or that issue. The design of each newsletter is modern, attractive, engaging. Each text lists 'Sources that contributed to this issue of the newsletter'. The name of the author of the text and the resource on which it is located is also indicated. At the end, acknowledgment is invariably provided specifying due to whose support the publication

was made possible. And it is also emphasized that the opinions expressed in the bulletin belong to the authors and may not reflect the point of view of the sponsor, which is the US Embassy in Ukraine, or the US Government, respectively. Among the topics of the newsletters there are as follows: How to improve the quality of assessment (Issue 7), How to support the integrity of distance learning? (Issue 8), How to Prepare a Quality Syllabus? (Issue 11), How to Respond to Integrity Violations? (Issue 15), In what form should the semester exam be conducted? (Issue 23), How to Help Undergraduates and Postgraduates Research with Integrity? (Issue 27). Such topics really need a balanced and qualified explanation. In issue 7 ‘How to improve the quality of evaluation?’ at the end there is a recommendation in capital letters: ‘Print this bulletin out on a large paper – you will have a nice poster’.

In fact, this recommendation is justified, because the newsletters are so compact that they sometimes seem like a reminder or a friendly instruction or a how-to guide or a qualified consultation or all mixed together.

Thus, the issue of academic integrity is relevant in modern education, in particular at the university. Dissemination of useful information for participants in the educational process contributes to meeting the requirements of academic integrity. Universities use their official websites, to which access is open, as channels for promoting standards of academic integrity.

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**METHODS OF COMBATING VIOLATIONS
OF ACADEMIC INTEGRITY WHEN STUDYING
THE DISCIPLINE "PHTHISIOLOGY"**

Maryna Kulish, Anatoliy Yareshko, Alla Vorodyukhina

Poltava State Medical University

phthysiology@pdmu.edu.ua

Ensuring and maintaining academic integrity during the educational process today is one of the priority areas that affect the quality of training of future specialists. Scientific and technological progress contributed not only to the creation of new technologies, but also expanded the possibilities for plagiarism, falsification and other forms of violations of academic integrity.

This issue became especially acute after the transition to distance learning caused by the COVID-19 epidemic and the full-scale invasion of the Russian Federation into Ukraine. With such a form of education, it is quite difficult for a scientific and pedagogical worker to detect and counteract violations of academic integrity. In order to overcome this problem, the teachers of our department tried to work with various educational platforms, but they all had shortcomings. Even conducting classes in the form of a video conference using a program developed by ZOOM Video Communications or similar does not allow students to avoid fraud, because a student can open several windows at the same time and read material from a textbook or search for answers to questions on the Internet. It is possible to overcome this problem only by refusing a formal survey (retelling the material of the lesson topic). Instead, it is better to offer students during the video conference to solve situational problems on the subject of the lesson, to interpret the results of various methods of patient examinations. This will not only make it difficult to find a ready-made answer, but also demonstrate the student's level of assimilation of the material (remembered, understood, can apply the

acquired knowledge), which will allow for a more objective assessment of his knowledge level.

With the traditional form of conducting classes, it is easier to counteract violations of academic integrity on the part of students. It is sufficient to prohibit the use of auxiliary materials (textbooks, notes, cheat sheets, etc.) or technical means (phones, tablets, etc.) during the survey and conducting control measures. In addition, this is regulated by the "Regulations on academic integrity of students and employees of the Poltava State Medical University" and the "Code of Academic Integrity of the Poltava State Medical University".

It is somewhat more difficult to check student case histories for academic plagiarism. They are written by hand, so computer programs such as "Antiplagiarism" cannot help with this. The best way to avoid writing off this task is to individualize it. No two patients are the same. Everyone has their own anamnesis, their own examination results. But there can also be a problem here – unauthorized cooperation – performance of this work by another person by prior agreement. This variant of dishonesty is easily detected when defending medical history. A student who passed off someone else's work as his own does not know the details of "his" work, cannot explain the conclusions "he" made.

It should be noted that academic integrity depends on all participants in the educational process. Scientific and pedagogical workers can also violate the principles of academic integrity by using methodological developments, tests, situational problems written by other authors, passing them off as their own. Therefore, we believe that the best way to prevent any violations of academic integrity is responsibility for them, provided for in the relevant regulatory and legal documents.

Therefore, observance by all participants of the educational process of such human values as: honesty, justice, responsibility and respect will avoid violations of academic integrity.

Key words: educational process, academic integrity, violations, prevention measures.

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**INCREASING THE EFFECTIVENESS
OF THE EDUCATIONAL PROCESS BY STUDYING
TEACHER- STUDENT RELATIONSHIPS
IN ONLINE LEARNING CONDITIONS**

Viktoriya Kuzina, Natalia Holik, Yuliia Fomenko

Kharkiv National Medical University

viktoriya_61@ukr.net, nv.golik@knmu.edu.ua, viktoriya_61@ukr.net

Introduction. For several years now, the whole world has been forced to convert to a remote lifestyle. The education sector has not been spared from this process. Online learning with its virtually unlimited choices of where and when to take classes, Online learning with its virtually unlimited possibilities to choose the place and time of classes, the pace of mastering the educational material, with relative cost-effectiveness is gaining more and more followers. Sometimes it becomes almost the only way to gain new knowledge and improve your skills.

Humanity's experience of mastering certain knowledge and skills to acquire any specialty or profession involves significant psychological, time emotional, physical costs. However, due to various reasons, not every student is ready to adapt to such workloads. The last 4 years have been associated with the Covid-19 pandemic and the outbreak of a full-scale war in Ukraine. Teaching is blended or online. Due to the time and long term needs of learners and trainees, the need to analyze the online learning process using modern technologies remains relevant.

Results. Based on an anonymous questionnaire survey of teachers, also 4th and 5th year students conducted over the past 4 years, we identified the factors that influenced the nature of the online teacher-student relationship.

There are insufficient personal participation of each party during the learning process; lack of verbal presentation of the material by the

instructor at the expense of the proposed video demonstrations, lack of flexible response to students' questions in the manner of a live dialog on the one hand, short and one-syllable answers of

students, without excessive efforts to demonstrate their readiness for the lesson – on the other hand among them. An attempt, sometimes bilateral, to minimize communication time by announcing technical problems and bugs. A significant time difference should also be pointed out.

Conclusion. Along with this, it seems to us expedient to use artificial intelligence to analyze other, no less significant factors, such as: duration of the session as a whole, differentiating the duration of presence of each Zoom or Google Meet participant, frequency and duration of voice messages of each invitee to the aforementioned event. Analyzing the number of students who have used learning platforms (like Moodle), calculating the time spent on a given platform and the use of other media: e-textbooks, movies, etc. can be done by artificial intelligence also.

Routine tasks that could be solved by artificial intelligence for teachers and students with significant savings in time and other resources include calculating the optimal start time for representatives of different time zones and the format of Internet conferences depending on the quality of Internet connection for representatives of different countries, developing individual work schedules taking into account the employment of the parties, etc. And then, one day, when asked by a student of higher education: "Why do I have a "3" and not a "5"?", instead of a courteous phrase that today the student was unconvincing, will be followed by an intellectually processed answer, confirmed by indisputable facts.

Key words: Online learning, online teacher-student relationship, artificial intelligence.

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INTRODUCTION OF INNOVATIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS AT THE DEPARTMENTS OF THEORETICAL PROFILE OF KHNMU

**Milena Kuznetsova, Viktoriia Bibichenko, Iryna Kuznetsova,
Snizhana Sarapulova**

*Kharkiv National Medical University
mkusya1605@gmail.com*

Recent years have become an extremely serious challenge for all spheres of human life, including the education system. Competition in the labour market is shaping trends towards changing requirements for specialist training. That is why arises the question of how to improve the quality of the educational process (Tavares CMM et al., 2021). For this purpose, it is extremely important to introduce innovative technologies in education (Giordano NA et al., 2021). Many studies have proven that the use of new technologies in education conditionalise to the civilisational development of mankind, improves the quality of life and becomes a solid foundation for the formation of an educated and creative personality, and mainly facilitates to the development of competencies for effective professional activity (Padilha JM et al., 2019). This is the motivation for the active search, development and implementation of the newest technologies for the high-quality training of specialists, including future medical workers.

The purpose of this study was to determine the effectiveness of the impact the introduction of innovative technologies in the educational process at the departments of theoretical profile at Kharkiv National Medical University.

Materials and methods. The study involved 67 people, of whom 38 were teachers of the departments of theoretical profile of KhNMU and 29 students of I–IV medical faculties of 1–3 courses. The respondents included 45 women and 22 men in the age groups of

17 to 35 years. To achieve this goal, a sociological study was conducted by survey using specially developed questionnaires, that were distributed on Viber and Telegram social networks using Google-forms.

Results. The study revealed an opposite pattern of answers to the questions from teachers and students. When answering the question whether innovative technologies have been introduced at the department where you teach/study: 52% of respondents answered positively and 48% answered negatively to this question. According to the teachers' answers, it is clear what has been implemented: 55% of respondents said that these were interactive technologies (creating presentations using prezi.com, using interactive whiteboards (Jamboard, Padlet), and Kahoot, Mentimeter), 36% said they use Workshop technology and another 9% said they prefer traditional teaching methods. In general, 67% of respondents positively assessed the effectiveness of the new technologies, while another 26% were sceptical about the effectiveness of these technologies, and 7% had difficulty answering the question. 71% of the surveyed respondents noted an improvement in students' performance in the discipline they teach, while 29% did not notice any changes. 86% of respondents noted a general increase in students' interest in studying the subject they taught, while 14% did not notice any changes. When assessing the effect of interactive technologies on the educational process: 43% noted the use of interactive whiteboards (Jamboard), 37% – the use of Kahoot and Mentimeter applications, and 20% noted the importance of the impact of workshops.

Answering the question of whether innovative educational technologies have been introduced at the departments of theoretical profile, 54% of applicants gave a positive response and 46% answered negatively to this question. This is how technologies were used: 56% of students mentioned the Workshop technology; 29% of respondents said that teachers used presentations developed with the help of prezi.com during practical classes; 8% noted the use of interactive whiteboards (Jamboard, Padlet) and 7% of Kahoot and Mentimeter. In whole, 78% of students positively assessed the effectiveness of the introduced interactive technologies and

22% doubted their effectiveness. 74% of surveyed students noted an improvement in their academic performance, while 17% did not notice any changes and 9% had difficulty answering this question. 89% of respondents noted an increase in interest in studying the subject and 11% of respondents had difficulty answering this question. When assessing the extent of the impact of interactive technologies on the educational process: 47% noted the impact of workshops; 42% – the use of Kahoot and Mentimeter applications by teachers; 11% noted the use of interactive whiteboards (e.g. Jamboard).

Conclusions. Thus, based on the data obtained in the course of the study, we can conclude that the issue of introducing innovative technologies remains open. At the same time, in general, there is a coincidence of views of teachers and students on the introduction of innovative technologies in the educational process, which was manifested in most cases by their full support. However, there are some doubts among both teachers and students about the effectiveness of the technologies introduced into the educational process. In general, the information that was obtained creates a basis for further research in this area.

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Key words: innovative technologies, educational process, departments of theoretical profile, higher education students.

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**PROMOTION OF ACADEMIC INTEGRITY
IN THE INFORMATIONAL
AND EDUCATIONAL ENVIRONMENT**

Olesia Kyselova

*Municipal Establishment «Kharkiv Humanitarian-Pedagogical
Academy» of Kharkiv regional council
o.kyselyova@gmail.com*

Introduction. The dynamic informatization of all areas of human life conditions society's transition to a qualitatively new level, which appeals to information and technologies as one of the main sources of its development. The leading component of the modern world is the digital space, whose data transmission channels have significant advantages over traditional ones, including speed, accessibility, convenience of data storage, etc. Many factors (the global use of the Internet by the subjects of the educational process, modern information technologies, in particular the capabilities of artificial intelligence, the change in the value orientations of young people, the imperfection of the academic integrity control system) actualize the problem of abuse, manipulation, distortion and appropriation of information. That is why academic integrity is one of the most important principles on which the educational process should be based in the modern informational and educational environment. This quality is defined in normative documents as "a set of ethical principles and rules defined by law, which they should guide during learning, teaching and carrying out scientific (creative) activities to ensure trust in the results of studies and/or scientific (creative) achievements" [1]. The problem of highlighting the need for promotion to instill in the participants of the educational process a culture of academic integrity in the informational and educational environment, which is the purpose of this work, emerges acutely.

Results. The results. Participants in the educational process deal daily with the author's products (graphic images, text articles,

computer programs (software), musical and cinematic works, website design and content, books, photographs, etc.). However, according to a survey of students and teachers, the habit of "downloading any materials from the Internet and issuing positive assignments" first developed in school, then moved to a higher educational institution, and, finally, moved to a scientific environment.

With the active introduction of artificial intelligence into the educational process, as opposed to its didactic potential (automation of routine tasks, personalization of learning, creation of new educational methods, materials, etc.), an even more urgent problem of academic dishonesty appears. The famous saying of Ed Asbury, one of the pioneers of the computer industry, regarding the influence of the computer on the manager is also relevant to the educational environment. The analysis of scientific publications allows us to assert that digital technologies, in particular artificial intelligence, are not created from a bad teacher into a good one, but rather make a good teacher even better, and a bad one worse. It is worth investigating the possibilities of artificial intelligence to promote the academic integrity of participants in the educational space: systems for automatically detecting plagiarism, writing, and other forms of academic dishonesty, providing education subjects with recommendations on ways to avoid academic integrity and forming respect for academic values, etc. In addition, we see the solution to this problem in the organization of relevant scientific and practical seminars, pieces of training aimed at popularizing academic integrity, acquiring academic writing skills, developing skills in using software tools for identifying borrowings in the text, which will undoubtedly bring education to a new qualitative level.

Conclusion. Therefore, the rapid progress in digital technologies is both an activator of academic plagiarism and a vector for finding ways to eliminate manifestations of academic dishonesty, which can not only have a detrimental effect on the quality of education but also deform the consciousness of new generations of researchers.

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Key words: academic integrity, information and educational environment, artificial intelligence.

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**WAYS TO PREVENT THE USE OF PLAGIARISM
IN BACHELOR'S QUALIFICATION PAPERS
OF STUDENTS OF ECONOMIC DISCIPLINES**

Lesya Leshchii

Ukrainian-American Concordia University

lesya.leshchii@uacu.edu.ua

Introduction. For many years, the final work of students was considered a qualification paper – a voluminous work that combines theoretical and applied aspects of research on a certain issue, depending on the student's educational program. However, the problem of using plagiarism has never been as acute as it is now. In this connection, two questions arise: why do students use plagiarism in their works and how to deal with this phenomenon?

Materials and Methods. When writing theses, analytical methods of comparison, analysis and synthesis were used, the works of scientists were studied, as well as personal observations during the pedagogical work.

Results. To better understand the root of the problem, let's try to figure out how many available sources are at the disposal of users, and what information they contain. There is no exact data on this, as of 2019 Google Scholar alone lists more than 390 million sources. In the world, almost every minute, some new article is published, news is added to magazines, etc. Young people, literally flooded with

information from all sides, stop thinking, analyzing, and drawing their own conclusions.

On the other hand, students seem to forget that the bachelor's work is based on pre-diploma practice, and it is concrete data that serves as the basis for analysis. Students are already used to finding information on the Internet and adding it to their work, making the appropriate link (at best), and answering only standard questions. After all, during the educational period, as usual, the emphasis was on solving standard tests and problems.

Conclusion. The following measures can be proposed for the problem of using plagiarism in bachelor theses:

1. It is important to develop the student's understanding of the topic of the work, its relationship with the practice base and the economic situation, modern trends, and understanding of what makes the topic relevant and interesting. The student should be interested in expressing his own thoughts, pay attention to the practical aspects of the subject, the work will acquire a new, creative character.

2. Analysis of statistical data on the research topic – for most specialties. Charting, analysis of trends, as a rule, it is almost impossible to obtain as plagiarism – after all, the data must be for the last year, for a specific enterprise or industry. Emphasis should be placed on own calculations, not on theory.

3. Quality work with the supervisor of the bachelor thesis. It is the concentration on the analytical component, as well as the discussion with the student of the practical value of the work. This should be almost the most important aspect, because it will allow the student to explore the topic with greater interest, and will eliminate the use of plagiarism.

Of course, control measures – such as checking works for plagiarism, observing the quality and accuracy of citations, etc. are also important. However, the listed measures will encourage the student to think creatively and promote academic integrity.

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Key words: plagiarism, qualification paper, information, analytical thinking.

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ON AI WRITING DETECTION TOOLS AND INSTRUCTORS AS DETECTORS

Anastasia Logothesi

Deree College of The American College of Greece
logothesi@acg.edu

In the midst of the massive disruption that Generative AI tools have caused in all areas of human activity in the past year, a particular concern that has emerged in higher education relates to the increased potential for students to outsource coursework to AI. Such a breach of Academic Integrity is difficult to detect and

substantiate while an increase in such forms of cheating threatens to devalue the integrity of academic awards in general and compromise institutional validity. Therefore, when detectors of AI-writing were promoted as a solution in early 2023, the use of AI to detect AI seemed to make sense. Several months and a few studies later (see Weber-Wulff), evidence suggests that AI writing detectors are unreliable (see Webb), biased (see Liang), and may lead to false accusations (see Crockett). This has led several institutions to disable detectors (e.g., Vanderbilt) and recommend against their use (e.g., Yale) although Turnitin continues to insist on the validity of their detector.

This presentation will offer an overview of key findings related to the unreliability of AI detectors and consider other ways in which AI writing may be discouraged as well as detected. Even as the use of AI tools expands in the professional world, in the academic classroom the instructor remains the only reliable detector of the authenticity of student writing. Suggestions will be offered for increased opportunities for in-class writing activities with an emphasis on student engagement and for alternative assessment methods which may guard more effectively against integrity violations.

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Key words: Academic Integrity, AI-writing detectors.

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OBSERVANCE OF ACADEMIC INTEGRITY BY CADETS OF INSTITUTIONS OF HIGHER EDUCATION WHEN USING ARTIFICIAL INTELLIGENCE TOOLS

Kateryna Maravska

Kharkiv National University of Internal Affairs

catherinem1983@gmail.com

Introduction. In today's conditions, the problem of spreading the practice of using artificial intelligence tools by cadets of institutions of higher education with specific study conditions in the educational process, scientific, and creative activities is acute. In particular, cadets of institutions of higher education most often turn to the means of artificial intelligence when writing creative works, where, along with quoting famous authors, there is a need to express one's thoughts. This is where artificial intelligence comes to their aid.

Methods. To solve the specified problem, theoretical research methods were used: analysis, comparison, systematization, and generalization of theoretical and statistical research data presented in domestic and foreign scientific literature.

Presentation of the material. Adherence to the principles of academic integrity in the educational environment of an institution

of higher education with specific study conditions means the prevention of plagiarism in any academic texts (abstracts, term papers, competitive works, dissertations, etc.), self-plagiarism, falsification and fabrication of data, writing off and deception in any form.

Of course, obtaining the necessary information generated by artificial intelligence greatly facilitates the work of cadets, but it has certain disadvantages. So, first of all, the information does not contain clear data about the authors of scientific works, to which the artificial intelligence turned after receiving a certain request from the user. So, in this case, we have a fact of violation of academic integrity. Secondly, the cadet accepts the received information with 100 % confidence that it is true. But, for example, the developer of ChatGPT – the company OpenAI – noted that artificial intelligence sometimes writes believable, but incorrect and meaningless answers.

The use of artificial intelligence tools, in addition to violating the principles of academic integrity, harms personality development. Obtaining information with the help of search services, its systematization, and rethinking form a cadet's critical thinking. Reckless constant use of artificial intelligence tools can lead to a loss of critical thinking and an inability to express one's thoughts.

A positive point in the use of artificial intelligence tools is the study of some aspects of the problem being solved from a different point of view, and they can also contribute to new research.

Conclusion. So, summing up what has been said, I would like to emphasize the importance of observing the principles of academic integrity in the educational process and creative activity of cadets. The use of artificial intelligence tools must be thoughtful: one must be responsible for the use of information obtained with its help and prevent plagiarism in one's research.

Key words: institution of higher education, cadet, academic integrity, plagiarism, artificial intelligence.

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ENSURING QUALITY ASSURANCE AND ACADEMIC INTEGRITY IN ACADEMIA IN THE AGE OF AI

Amanda McKenzie

University of Waterloo

amanda.mckenzie@uwaterloo.ca

At no other time in history has it been more important to ensure that students are graduating with competencies aligned to their degree or diploma. Artificial intelligence (AI) is robbing academia of the traditional methods of assessment and threatening the originality of academic work – which impacts institutions, instructors, administrators, staff, students, employers and ultimately society.

However, all is not lost if we embrace change rather than resisting or denying it. We must accept that a traditional written assignment or essay can no longer be trusted to evaluate a student’s knowledge. This is good news from a pedagogical standpoint – the focus needs to shift back to emphasizing the learning process rather than being focused on the outcome (i.e., a degree or diploma). The commodification of education needs to end.

Quality assurance (QA) is defined as “a process of evaluating and monitoring the quality of education provided by higher education institutions to ensure that they meet certain standards and expectations”. (QAA, n.d.). Whereas academic integrity is often related to upholding the values of honesty; trust; respect; responsibility, fairness and courage (ICAI, n.d.). I firmly believe that you cannot have one without the other – they are inseparable.

Neither the U.S. or Canada have a national quality assurance agency, unlike Australia and the United Kingdom. This means that QA activities are decentralized in North America and do not readily include academic integrity. Whereas QA bodies such as TEQSA in Australia and the QAA in the UK both actively engage with and

promote academic integrity on a large scale. Academic integrity evolved slower in North America and has been pursued by independent organizations such as the International Center for Academic Integrity instead of central agencies.

Ukraine is unique in the sense that it is one of the few countries (I believe Montenegro is the only other one) that enacted academic integrity into law. These countries are exemplary – giving legislated value and importance to academic integrity more so than anywhere else in the world. In Ukraine, universities are required by law to include academic integrity under their QA processes. Hence, there are many built-in checks and balances to ensure that integrity is being upheld. This type of framework could be considered in other countries with less formal QA requirements.

Artificial intelligence threatens academic integrity which in turn harms the quality and credibility of educational degrees and the reputation of higher educational institutions. The evolving level of sophistication of AI tools and other means to make AI generated material more human will continue to raise doubt on the originality of students written material and online assessments.

Higher educational institutions need to pay close attention to AI and determine how they will modify their assessments to reduce the chances of unoriginal work being submitted by students. Their focus will need to be on proving competencies and learning outcomes using less traditional methods or a blended approach. Moreover, higher educational institutions can protect and promote academic integrity by engraining it in quality assurance practices.

As technology continues to improve – the only way educators and institutions can protect the qualifications and degrees they confer is to nurture a culture of integrity. No matter what new technology or methods are developed to cheat – instilling honesty, respect and the value of education and integrity, and how these are inherently connected to an individual's life and career – are the best defence against academic short cuts. A culture of integrity is boundless and timeless.

Key words: academic integrity, quality assurance, academia, artificial intelligence, originality, qualifications, law, culture of integrity.

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**INTEGRITY UNDER INFORMATION WARFARE
(ON THE ARTICLES OF VASYL' STUS DONETSK
NATIONAL UNIVERSITY STUDENTS)**

Kyrylo Mieliekiestsev

Vasyl' Stus Donetsk National University

k.melekestsev@donnu.edu.ua

Introduction. The wartime conditions of information warfare greatly affect student research, forcing students to choose between academic integrity and their own feelings when writing up analyses of current and past events. As such, the Faculty of History and International Relations of Vasyl Stus Donetsk National University is trying to attract its students towards research of information warfare as a concept.

Materials and methods. “History of Ukraine in Information Warfare” was introduced as a subject to the curriculum of international relations freshmen in 2020, and to the history and archaeology students the year after. The students that then took part in academic activities answered a questionnaire on their reasons for interest in information warfare as a topic. Information warfare was studied in the context of policies on propaganda, rather than its technical side (e.g. “cyberwarfare”), extrapolating from R. Szafranski's works (Мелекестев, 2022).

Results. Surveying students, who wrote papers on information warfare themselves, allowed to determine what interested them the most in this topic. Most of history students named Moscow's active

anti-Ukrainian information campaign in 2020–2021; IR students referred to the start of Moscow’s full-scale offensive in 2022. It’s worth to note that the second most-named reason is categorically false, as trends regarding student interest in information warfare could be seen pre-2022. It may be a matter of traumatic memory overriding the students’ ability to determine what were their other reasons for interest (speculating, the aforementioned curriculum itself).

The students’ own works reveal differences in understanding of the subject between history and IR students. Within “History and Archaeology” program, Ye. Zabolotnyi indicated that the ideological component of Moscow’s information warfare is “chronologically longer than the current phase of the centuries-old conflict between our democracy and Muscovite authoritarianism,” trying to find century-long tendencies, extrapolating the current situation on the past in search for confirmation (historicism) (Заболотний, 2022). Another history student, D. Pyatina focused on determining the presence of “fake news” and methods of countering them as offered by experts: problem-solving, rather than researching (Пятіна, 2020). Yet, IR students have proven to be much more detached in research, preserving integrity, as seen in A. Anisov’s paper on NATO’s engagement in information warfare (Анісов, 2020) and Yu. Palamar-chuk’s analysis of DonNU staff’s publications (Паламарчук, 2022).

Conclusion. This aspect of the study has shown history students to be more likely than international relations students to pick-up “favourites” and break research integrity in favor of their own feelings and the desire for problem-solving.

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Key words: history, information warfare, international relations, NPOV.

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**EFFICIENCY OF INTERDISCIPLINARY TASKS
AS THE BASIS OF THE ACADEMIC BENEVOLENCE
OF THE FUTURE PHYSICIAN**

**Nataliya Moisieieva, Olena Vlasova,
Mykola Ryabushko, Andriy Vakhnenko**
Poltava State Medical University
moiseevanatali74@gmail.com

Modern world society is experiencing a period of global changes associated with the formation of civil society, the deepening of the market sector of the economy, changes in the field of employment, the regrouping of demand for labor, and the growth of society's demands for the quality and competitiveness of human resources. Today, higher education institutions are expanding the range of educational services, not only guaranteeing future doctors to obtain a specialty, but also creating prerequisites for their further advancement in the educational system. In order to optimally meet these requirements, it is necessary to switch to a model of advanced education aimed not only at preparing a doctor for a specific professional activity, but also at forming a readiness to master new knowledge, acquiring multifunctional skills and ensuring professional mobility and high competitiveness. The formation of a future doctor in the system of modern education is formed not only as a process of accumulating subject knowledge, but also as an improvement of the entire professional and personal training due to the formation of cognitive activity in the light of modern approaches of academic integrity, thereby creating prerequisites for his further continuous self-improvement and productive self-development.

The problem of finding conditions and methods for the development of the foundations of academic integrity of higher education acquirers becomes especially relevant as the basic basis of personality. Today, it can be argued that the formation and development of the foundations of academic integrity is one of the central lines of

personality formation in the educational process, as it allows the future specialist to show his individuality as fully as possible, to carry out processes of self-development and self-improvement in order to reach the heights of professional and personal growth. All this dictates the need to apply productive educational methods that allow future doctors to master not only elementary, but also complex (interdisciplinary) professional skills and abilities in the process of learning, to form integrative knowledge. A distinctive feature of these productive technologies is the ability to solve educational and cognitive tasks in the context of future professional activity, to use interdisciplinary connections for in-depth consideration of professional processes without violating the basic principles of academic integrity.

When teaching clinical pharmacology, interdisciplinary tasks of various types and classes were developed, integrating program material from clinical pharmacology and other disciplines. The development of the system of interdisciplinary tasks was carried out taking into account that these tasks were as fully correlated as possible with the program material of general and special medical disciplines and reflected the main aspects of the professional activity of a medical specialist with the application of the principles of academic integrity. The results confirmed the effectiveness of applying various forms of interdisciplinary tasks, the predominance of a higher level of development of cognitive activity in students who successfully performed interdisciplinary tasks, and can be used to further expand the problem field of research on the professional training of future doctors in the educational process of a vocational school, as well as for the formation of the future specialist of the basis of academic integrity.

Thus, for the effective training of future highly qualified specialists, it is necessary to use pedagogical methods capable of ensuring the priority of subject-meaningful learning, which stimulate the development of the cognitive activity of the individual and are based on the inclusion of educational and cognitive tasks in the context of professional problems and current aspects of professional activity with the formation of principles maintaining academic integrity.

Key words: academic integrity, clinical pharmacology, interdisciplinary tasks.

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ACADEMIC INTEGRITY IN THE INSTITUTION OF HIGHER EDUCATION

Iryna Mozul

*Educational and Scientific Institute of Pedagogy and Psychology
of Oleksandr Dovzhenko Hlukhiv National Pedagogical University
mozul.dubok@gmail.com*

Introduction. Academic integrity is an important component in the world of education and research. It includes honesty in one's own actions and statements, respect for the intellectual work of others, opposition to plagiarism, and responsibility to the educational community. Academic integrity is interpreted as high moral stability and honesty in the context of the educational process. This concept contains a number of values that form the basis of high-quality teaching and research.

The results. Academic integrity is not only an integral part of the ethics of students and teachers, but also a guarantee of the reliability of the acquired knowledge. In the university environment, academic integrity becomes a fundamental component of culture and defines the ethical standard for higher education students and teachers. This concept not only emphasizes honesty in one's own actions, but also forms the basis for high-quality teaching and further scientific research. Students and teachers should have the ability to defend their own ideas and views without resorting to plagiarism or inaccurate data. Adherence to honesty in education forms students of higher education the ability to think critically and develops independence.

Academic integrity also means respecting the intellectual work of others. Students and faculty should avoid using other people's ideas without proper attribution and respect copyright. By promoting an honest exchange of knowledge, the academic community develops as an intellectual organism

Academic integrity includes a strong fight against plagiarism and illegal copying. Students and teachers should be aware of the negative consequences of these violations for their own intellectual development and reputation. Academic integrity is not just a set of rules, but also a life philosophy that forms a high standard of ethics and promotes the development of knowledge and science. Respect for honesty and intellectual work is the basis on which the modern academic community is built.

Participation in the academic community also includes responsibility to other members of the community. This means interacting in good faith with others and striving to create a positive and honest educational environment. Violation of academic integrity can occur for a variety of reasons, such as:

1) ignorance and unawareness of norms and rules – some students may not be adequately educated and informed about what is considered plagiarism or other violations of academic integrity;

2) pressure and stress – high workload, competition and stress can force students to look for quick ways to achieve success, including copying other people's work;

3) lack of responsibility – an uncontrolled or inefficient, ineffective control system can lead to a feeling of impunity among students;

4) inconsistency with the educational program – some students of higher education may believe that the educational program or a specific subject is not relevant for their future career, and this may lead to an unconscious violation of integrity;

5) insufficient training – students who believe that their abilities or level of knowledge are insufficient may try to correct it by copying other people's materials;

6) ethical problems – some students may have problems with ethics and believe that abuse of trust is acceptable to achieve their goals;

7) excessive competition – a competitive environment can lead to pressure on students to achieve the highest possible results by any means and means, even at the expense of integrity.

Understanding these reasons allows higher education institutions to take measures to prevent violations of academic integrity and educate ethically conscious students. The principles of academic integrity are the main determining criteria for building an ethical and responsible educational and research community. Focusing on these principles not only determines the quality of education, but also forms a stable foundation for the development of intellectual integrity. These include:

1) honesty – students and teachers must adhere to the principle of honesty in all their actions. This excludes plagiarism and does not allow false statements or presentation of incorrect information;

2) autonomy and independence – academic integrity promotes the development of independence in learning and research. It is important to respect the intellectual work of others and avoid inappropriate use of ideas without proper attribution;

3) transparency and objectivity – it is important to adhere to the principles of transparency and objectivity in studying and evaluating. Evaluation criteria should be clear, and study processes should be fair and objective;

4) developed personal responsibility – members of the academic community should feel responsible to each other and to the university community in general. This promotes understanding and compliance with the rules governing interaction in the university environment;

5) established ethics – the university community must adhere to high ethical standards in all aspects of its life, from research to interpersonal relations;

6) the presence of highly professional values – academic integrity reflects professional values that are important for future leaders and professionals and are based on the search for truth, the development of critical thinking, and a commitment to continuous learning and self-development.

7) commitment to these principles creates a healthy and dynamic academic environment that promotes high-quality teaching, research, and the ethical development of community members.

Conclusion. Thus, the observance of academic integrity in the university not only ensures a high standard of education, but also

forms future leaders capable of critical thinking and a creative approach to solving complex problems. Consequently, students and faculty must strive to advance knowledge and scholarship while maintaining high standards of ethics and integrity in all aspects of their academic lives.

Key words: academic integrity, higher education, university, educational process, students, teachers.

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**INTEGRITY BEYOND: BUSINESS ETHICS
AND IMPLICATIONS FOR ACADEMIC INTEGRITY
IN AN AI WORLD**

Kathryn Nantz, David Schmidt

Fairfield University, USA

nantz@fairfield.edu, dschmidt@fairfield.edu

Introduction. The concern about ethics in business has shifted from a “Search for Excellence” to a “Scrutiny for Misconduct.” Many companies have reduced “promoting ethical values” to “compliance with rules and conduct.” We believe that this shift from ethics to compliance has led to unwelcome outcomes. This shift from a positive understanding of ethics to a more proscriptive compliance has important implications for efforts to promote academic integrity in our universities. While academic integrity has always included attention to promoting positive values of robust and responsible scholarship, there can be a tendency to focus on compliance.

This takes the form of developing methods to catch cheaters and policies to punish misconduct. This presentation presents a conceptual model for framing the distinction between “ethics” and “compliance” that can develop a method for studying current student

attitudes about academic integrity in the context of the expanding capability of AI. It describes a plan to measure and assess student attitudes and perceptions at an American university.

Methods. The conceptual model for framing the distinction between “ethics” and “compliance” identifies the “bottom line” value of ethics as “First, do no harm.” At the level of “the bottom line,” behavior is neutral in terms of its consequences. As one’s behaviors become increasingly harmful, the person falls farther and farther below the bottom line. But as one’s behaviors become increasingly beneficial, the person rises higher and higher above the bottom line. In terms of academic integrity, the compliance approach develops policies, detection methods and punishments meant to deter persons from cheating. A more aspirational approach to ethics seeks to elucidate the values that support a responsible community of scholars, providing education and incentives to help persons aspire to positive roles of integrity and character. In the current context, where students, faculty, and staff are trying to understand the implications of artificial intelligence for academic integrity, the purpose of this study is to develop policies that will push scholarly communities above the bottom line, harnessing tools to promote honest inquiry and learning.

Experimental Materials. To promote this “above the bottom line” culture of academic integrity in the new world of AI, we need to learn how students are currently using the tools and what their understandings are about honest use. We seek to develop analytical tools to assess student perceptions and attitudes to the distinction between “below the bottom line” (compliance) and “above the bottom line” (positive ethics) as they respond to brief vignettes or written scenarios about academic integrity issues in the AI environment. In particular, we hope to learn how students are using AI tools, whether or not they believe themselves to be “cheating” and how the availability of ChatGPT and other such platforms affect the ways that students choose to complete assignments. We base this approach upon prior workshops done on our campus, in which we facilitated student discussion about “grey areas” of possible academic misconduct. We propose conducting a series of workshops that would be sandwiched between pre-and post- surveys of student attitudes.

We propose that after completing a facilitated case study discussion, students will be more likely to understand the implications of AI as a tool to improve learning, rather than a new method for quickly and easily dispensing with course assignments. By gathering these data, we hope to better structure campus policy to promote a culture of aspiration rather than compliance. Our presentation will provide examples of materials being developed for these workshops.

Conclusion. This session is designed to explore the relationship between compliance and aspirational models of ethics as they relate to the use of artificial intelligence in academic work. We propose a novel experiment that would allow us to assess the impact of generative conversations of case study material on student understanding of academic integrity.

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**GENERATIVE ARTIFICIAL INTELLIGENCE,
ACADEMIC INTEGRITY AND THE ROLE
OF UNIVERSITY SOCIAL RESPONSIBILITY**

Olegs Nikadimovs

EKA University of Applied Sciences

olegs.nikadimovs@eka.edu.lv

Academic integrity is facing new challenges as a result of the quick development of generative artificial intelligence (GAI). By examining the complex relations between GAI and academic integrity, this study explores ethical considerations that may arise when using AI-generated content in educational contexts. New means and approaches are needed to address this challenge, as GAI products are getting better at producing realistic and contextually relevant content at times indistinguishable from human intelligence (HI). The study addresses ethical considerations of AI tool usage in academic

settings. The study assesses available AI tools today and how they may affect academic integrity, stressing the need to develop additional means and approaches that would increase the values of integrity, creativity, and responsible use of artificial intelligence (AI). In addition, the study looks into the area of university social responsibility (USR) and how it might help to reduce the risks of GAI in academic settings. Since universities are praising ethical behaviour and the diffusion of information, USR is an essential tool for assisting universities in implementing responsible AI practices. The study results suggest promoting a proactive strategy for addressing the intersection of AI, academic integrity, and USR. Universities should embrace the transformational power of AI while respecting the fundamental principles of academic integrity by fostering a culture of ethical AI usage and active involvement of all stakeholders, thus contributing to the positive evolution of the academic environment in the era of AI.

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**GENERATIVE AI IN TEACHING AND LEARNING:
PROMPT ENGINEERING
AND TOWARDS DIGITAL EQUITY**

Abhishek Pandey

Manipal University Jaipur

abhishek.pandey@jaipur.manipal.edu

As education increasingly integrates technology, Generative Artificial Intelligence (AI) has emerged as a powerful tool in the realm of teaching and learning. This paper explores the role of Generative AI in educational contexts, with a specific focus on prompt engineering as a key element in enhancing learning outcomes. The study also investigates the potential of Generative AI to

contribute towards digital equity in education, addressing issues related to accessibility, inclusivity, and fairness. The first section of the paper delves into the significance of prompt engineering in leveraging Generative AI for educational purposes. By carefully designing prompts, educators can guide the AI model's responses to align with specific learning objectives, creating a personalized and adaptive learning experience for students. This approach not only facilitates content creation but also enables the customization of educational materials to cater to diverse learning styles and preferences.

The second part of the paper discusses the broader implications of Generative AI in promoting digital equity in education. The digital divide remains a significant challenge, with disparities in access to technology and online resources affecting learners' opportunities and outcomes. Generative AI has the potential to address these disparities by providing adaptive and personalized learning experiences that can be tailored to students with varying levels of access and proficiency. Generative AI can be used to create personalized learning experiences for students with disabilities, or to translate educational materials into multiple languages.

Furthermore, the paper examines the ethical considerations surrounding the use of Generative AI in education, emphasizing the importance of transparency, accountability, and fairness. It discusses strategies to mitigate biases and ensure that AI-powered educational tools contribute to, rather than exacerbate, existing inequalities. In conclusion, this paper underscores the transformative potential of Generative AI in teaching and learning, specifically through prompt engineering. By harnessing the capabilities of AI to generate tailored educational content, educators can enhance the learning experience for students. Moreover, the exploration of how Generative AI can contribute to digital equity highlights the need for thoughtful integration of technology in education, ensuring that advancements benefit all learners, irrespective of their socio-economic background.

Key words: Generative AI, adaptive learning, digital equity.

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THE CHOICE AS THE WAY OF BETTER UNDERSTANDING FOR ACADEMIC INTEGRITY SUPPORT

Artem Pavlychenko, Olha Nesterova

Dnipro University of Technology

pavlichenko.a.v@nmu.one, nesterova.o.yu@nmu.one

Introduction. Integrity is considered as one of the key elements of modern education and individual's performance in the social and professional life. But the values of integrity often remain secondary compared to possible profit or other advantages. So, the issue of ways for raising students' awareness in the field of integrity remains urgent for educators of all levels. There are a lot of shades of integrity in case we consider different fields of knowledge and real situations of education and professional activity. This means we need to provide students with the key points to be analyzed when taking the decision on activities that might be controversial in terms of integrity.

Results. The students are often eager to consider integrity, but they need concrete manual describing their allowed and banned possible actions, as well as good examples. Our practice of discussing issues of academic integrity with Philosophy students enabled us to make a list of questions the students are recommended to ask themselves if they have any doubts about the risk of academic integrity violation. The questions are based on the choice of the options, in particular:

- allowed/prohibited;
- have consequences/no consequences;
- mine/someone's;
- my responsibility/ someone's responsibility;
- honest/dishonest.

We suggest that educators discuss the options with their students at the beginning of the course in order to create a unique list of

questions the students need to answer when trying to estimate the integrity of their actions.

Conclusion. The list of options is far from being complete, but it can be considered as a basis for development of rules and recommendations for students of various fields to encourage their critical thinking and understanding of academic integrity values. It provides the general approach to the issue, which may be considered in details in the context of a particular case in future.

Key words: academic integrity, values, choice, awareness.

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CURRENT APPROACH TO AI AND ACADEMIC INTEGRITY

Olha Petrova¹, Mykola Petrov²

¹*Kharkiv National Medical University*

²*V.N. Karazin Kharkiv National University*

lingace@gmail.com, petrov2022mp11@student.karazin.ua

Introduction. Academic integrity as one of the pillars of ethical principles and rules concerning honest behavior in academic and scientific activity, avoiding plagiarism, has been recognized as an indicator of education and scientific research quality. More recently, it has acquired additional aspects related to the implementing artificial intelligence (AI) technologies into the common practice of working with text.

The purpose of the work is to reveal the main points in the current research relating to the ways of interaction of application of the artificial intelligence advances in education and research in the light of the academic integrity.

Rapid mainstreaming of various AI projects, e.g., different text-generating chatbots; AI or semi-AI assistants in academic writing and detection of spelling, grammar, and redundant words; research

response generalizers; automatic article generators; paraphrasing tools (Chat-GPT, Grammarly, Consensus, Simplified, Quillbot, etc.) posed a task for the appropriate creation of online checkers, or AI text detectors for identifying artificially created texts (GPTZero, Skandy, etc.). The cited materials of recent conferences and published works demonstrate the concern of the Academia regarding the use or possibility of using AI as a replacement for human mental work in education and science. Recently, scientists and educators have spoken about the necessity of establishing ethical standards for artificial intelligence usage in instruction, scientific research, etc. [1]. The criticism includes opinion that even if not such ethical aspects of plagiarism and cheating, which are considered manifestations of academic dishonesty, the texts generated by Large Language Models operating in dialogue mode, such as neural models created by machine learning developed by OpenAI are not reliable and do not guarantee correctness and adequacy as required. We agree with the authors as for the importance of achieving a balance whereby AI enhances and supports, rather than disrupts, the learning process [2]. The limits of the use of AI in work could be defined within the role of AI that can help in data collection and processing, i.e., artificial intelligence can be used in technical work, but in fact the main stage of creative work, creative design of thought, definition of the structure of scientific work must be human-made. The introduction of learning disciplines related to the use of artificial intelligence is of value, as it is clear that these technologies, AI tools will continue to develop and remain relevant.

Conclusions. AI can and should be a supplement to student learning, not a replacement. Educators should be learnt to be aware of the threatens for academic integrity due to potential unfair AI use. Students should be taught the ethics of original academic and scientific writing planning, execution and presentation. It is all the more important because the younger generation has grown up with the push of buttons while the long practice of distance education. Even more important is fostering an understanding of academic integrity as a basis for creating original work that has a certain novelty and, most importantly, is the result of human intellectual activity.

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Key words: ethics of AI, original writing, academic integrity, students, educators.

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CHALLENGES OF ACADEMIC INTEGRITY PROMOTION IN HIGHER EDUCATION DURING PROFESSIONAL COMPETENCE DEVELOPMENT

Iryna Pinchuk, Serhii Hordiienko

*Oleksandr Dovzhenko Hlukhiv National Pedagogical University
pinchuk@gnpu.edu.ua, 248265sergey@gmail.com*

Introduction. European integration supporting common values is important for promotion of a cohesive European society driving sustainable growth. We should improve modern communication between Ukrainian and world society to give future generations a chance to come to the world and EU community. Such changes are possible with promoting academic integrity in higher education, which faces some challenges nowadays.

Results. The results of the research made it possible to highlight the most influenced challenges of academic integrity promotion in higher education during foreign language competence development in Ukraine.

The rise of cheating technology has brought new and sophisticated ways for students to cheat. Online resources, custom essay writing services, and easily accessible information contribute to academic dishonesty. The outsourcing of academic work to third parties, commonly known as contract cheating, is a growing concern. Students may pay others to complete assignments or exams on their behalf. Some students may not fully understand what constitutes academic dishonesty or the importance of maintaining academic integrity. There is a need for more comprehensive education on these issues. Moreover, there is an intense competition for grades, scholarships, and job opportunities that create an environment where students feel compelled to cheat to maintain high academic standing.

There is another kind of problem in academic integrity promotion. The shift to online education, especially accelerated by the COVID-19 pandemic, has presented new challenges. Remote proctoring may be invasive, and monitoring student activities during exams can be difficult. Moreover, faculty members may face challenges in thoroughly checking assignments and exams for plagiarism due to high workloads. Implementing effective strategies for plagiarism detection can be time-consuming. Higher education institutions face pressure to maintain high academic performance metrics, leading to a temptation to overlook or downplay instances of academic dishonesty to preserve their reputation. Some university teachers are not fully aware of the extent of academic dishonesty or may lack consistency in applying policies related to it. Ensuring that all university staff is well-informed and enforcing policies uniformly can be a challenge.

Conclusion. Addressing these challenges requires a multi-faceted approach that involves education on academic integrity, consistent enforcement of policies, and the use of technology to detect and prevent cheating. Additionally, fostering a culture that values learning for its own sake rather than just grades can contribute to a more honest academic environment.

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Key words: academic integrity, higher education, professional competence development, intending professionals.

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GENAI AND THE DISRUPTIVE INTEGRITY

Bogdan Popoveniuc

University Ștefan cel Mare of Suceava

Center for Research in Applied Ethics, Romania

“One of the most dangerous things
you can believe in this world is that technology is neutral.”

John Dyer

The launching of Large Language Models (LLM) was an unprecedented phenomenon with conspicuous effects on the human race. Generative artificial intelligence (GenAI) is the concrete proof of Darwin and Turing’s unsettling truth about the human mind: *competence without comprehension* (Dennett, 2017, p. 57). Assessing the impact of this new disruptive technology on ethics in research and education cannot be made sectorial. Due to the *epiphylogenetic* function of technology (Stiegler, 1998) for human evolution and

knowledge, any interpretation implies a sort of self-referentiality. Hence, it is essential to reveal one's theoretical position on technology. I will adopt a strong ethical position on technology. This position is based on the perspective that the development of the human species cannot be delimited from its technological development. Still, no technological (strong) determinism exists in human evolution (see Popoveniuc, 2022). At least until now. Why am I saying this? The ability to make and use tools systematically was not only occasionally related to cognitive development, but the ability of epistemic engineering also allows the employment of technology for substantial life environment alteration and cognitive enhancement. Words are one of the most powerful tools ever, forming the basis of human culture. The AI technology itself is cognitive. Hence, the epistemic, cognitive environment of the human species is technologically changed at its very core.

GenAI has a special place in the technology panoply. From the beginning, it was an emerging disruptive technology (EDT). Its enormous potential for research applications for economic, political, military, and research applications puts it in an uncontrollable and self-enhancing process of development. However, "With great power, there must also come great responsibility," isn't it?

"We should responsibly develop GenAI!" This mantra, publicly repeated by top engineers, political leaders, CEOs, and well-known scientists, is like addicted people's self-encouraging words while they are craving for and are consumed by their addiction. Any "ethical coalition" for healthy development and use of the lethal drug of technological *pharmakon* (Derrida, 1981; Stiegler, 2013) for dealing responsibly with the problem of technological development is similar to climate change initiatives that cannot be efficient as long as leading economic and statal actors are not genuinely committed and foremost, and people overcome the denial state.

We must accept that there is little chance that these three domains (economics, politics, and warfare) would adequately address the issue of ethical GenAI. In these domains, ethics has a very indecorous meaning. It is peculiar to use the proper meaning of the word when you talk about business, political, or warfare ethics. It is a complex

and challenging task to accommodate the ethical demands of human enterprises that have their *raison d'être* oriented toward making a profit, gaining power, or destroying the enemy (see Benjamin, 1990; Girardin, 2012; Stoker, 1992). Of course, there are many ethical considerations and aspects, and many more individuals have extremely high ethical and moral conduct involved in business, politics, and warfare and, more or less, ethical ways of doing these, but ethics as uncoerced moral self-constraint for the good of the others is at least doubtful. These are social evolutionary cultural structures that, along with technology, are part of the insensitive evolutionary process of human society.

For these considerations, although the economic, political, and security approaches are essential for the sustainable development of emerging disruptive technologies, they will inevitably fail to address the core ethical issues. The pragmatical “AI for profit,” “AI for control,” and “AI for defense” dominate the “AI for society,” the vital human-centered, ethical, and secure approach (Craglia & Europäische Gemeinschaften, 2018). We already see the irresponsible accelerated pace rate of hyper-competition on developing new GenAI-based products, how social media was flooded with GenAI-based political marketing, and how the Gospel artificial wisdom (*Habsora*) transforms people in scientific calculations numbers and decides who will live or die (Davies et al., 2023).

But what about science?

Education and Science complement each other. However, I am afraid that scientific ethics and research are also still unprepared to address the question. In the last period of scientific research, the scientific image of the world was infused by its technological tools for studying reality. Computer-based research transforms most of the competence of research in prompt engineering and denatures the scientific paradigm in the face of the image of artificial intelligence. Science is becoming less a human mind science and more a general abstract transliteration of phenomena, strange for natural human intelligence. Cohorts of students and researchers are uncritically trained in computer algorithmic procedures, statistical analysis made by computers and methodologies, and mesmerized by the p signi-

fifance. The understanding is abandoned in favor of formal knowledge suited for computer processing. So, the scientific image is changing into one of generic knowledge and not one of human understanding. The scientific image transformed into an AI image and likeness. The more competent researchers become in handling scientific images, the more their manifest image becomes unfathomable to the human mind (Sellars, 1963).

What about us, the teachers?

We must realize and accept that most of our students, from now on, will be on AI drugs, the most potent drug, synthetic intelligence. Here, the ancient meaning of *pharmakon* is revealed in its entire force. We, as teachers, are in a paradoxical position. It is our duty to prescribe this medicine, i.e., AI technologies because it exists and enhances learning and research efficacy. Moreover, our role as teachers is to promote and help students be better suited to the society they will live in. Furthermore, the future will be permeated by AI. At the same time, we cannot control how they will use these drugs. The technological *pharmakon* is very harmful because it causes dependency, can hinder genuine and personal understanding, and can make us take knowledge for understanding mistakenly.

AI is a double-edged tool with both the potential for cure and the risk of poison. People misunderstand technology thinking that it is neutral. But this is false! Melvin Kranzberg (1986) famously said in its first law of technology: “Technology is neither good nor bad; *nor is it neutral*,” it is a hybrid, both a remedy and poison, an enhancer and impairer, a *pharmakon*. The social media technologies case is illuminating. They enhanced our abilities and enlarged our possibility for building new communities (online) and new ways of communication. At the same time, it isolated us, destroyed our sense of community, and made us lonely, depressed, and anxious.

What is it done?

I already notice two strategies expressing the difference in mentality between the West and East. In my cultural area, the predictable magnitude and impact of GenAI in education, in general, and on academic integrity, in particular, is denied. We do not need so much talk and regulation for this. If we doubled any written

assignment and exam with a short oral interview, “to see if the student knows what they wrote” is enough. My Western colleagues are already actively engaged in the issue. We must prevent the possibility of cheating and foster the abilities for ethical use of GenAI in our students. Realistic, pragmatic, and reasonable. The case is similar to the issue of sexual education classes in schools. While, among European countries, Romania has the highest rate of teenage pregnancy, most of the society, led by the Orthodox Church, the socialist ruling party, and far-right parties, opposed it on the grounds that: “it will corrupt the mind of the young generation.” The same rationale underlays the ethics of the AI use approach.

In my view, both strategies are wrong. The first one is obviously catastrophic in the short term. Romanians have this habit of waiting for others to find solutions for everyday problems and, after this, tailoring them to their specific context and circumstances in a “Romanian way”. However, we sometimes transform them into disasters because of our adaptations.

However, I consider the second also detrimental, but in the long term. Because it is not a proactive solution but a reactive one. Most of the discourse is, somehow, naïve. Although the impact and inevitability of AI in academia and research are acknowledged, it is evaluated as overoptimistic, considering that the significant impact will be positive, i.e., increasing productivity, creativity, accountability, and misconduct dishonest use will be marginal and exceptional. Technology is ambivalent; it has a hybrid nature, not a neutral one. GenAI’s technological advancement is disruptive. The adaptive solutions, although active, will surrender our future to the blind, uncontrollable development of technological progress, ruled by the primitive drives of economic, political, and military reasons. “If in the coming years we do not learn how to produce a *new culture of tekhnē*, *new therapies for pharmaka*, we will send life on this planet to its doom” (Stiegler, 2019, p. 23). The mere adaptation to the advance of technology driven by the basic biological evolutionary forces of the gut, sex, and muscles prompts us to self-destruction in an increasingly technological society. The human zoo (translated more meaningful in Romanian as “zoomenire”) (Morris, 1960), driven by slower

evolutionary biological forces, is fate to fade away or self-annihilates into a highly advanced technological environment where technology replaces and supports almost all human physical and cognitive tasks. In education and research, the high dependency on AI tools raises the risk of fostering learned helplessness and low self-efficacy, which entails misuse of them.

Is there any solution?

Realistically, I do not know! Looking around at the increasing sympathy for populist parties or fundamentalist and belligerent discourses, our faith that humanity is not fated to self-extinction seems more like wishful thinking.

At this very moment, the researchers and engineers are under the spell of technological power; they live in technological illusory reality, and, in the best case, they search for solutions from within the framework set by the very technological reality, i.e., improper scientific image. Until now, it was only a technologically constructed image driven by human needs. Power technologies have become literal realities in the panoply of smart devices and AI algorithms, advancing from biopower (Foucault, 1980) to psychopower (Stiegler, 2013). AI technologies are transforming the very human cognition and consciousness.

Of course, that scientific image and the manifest image of reality are cultural simulacra collectively constructed. However, artificial intelligence has become the main active dimension in both these images of reality. As the scientific image is the one that provides knowledge that is power, people are slowly renouncing their cognitive autonomy. This is happening gradually but at an increasingly higher pace, and laypeople and scientists are unaware of this. It is a pity that researchers who must be the most attentive are those most deeply immersed under the spell of AI simulacra (Baudrillard, 1994).

What one can deduct from the scientific and philosophical studies on how human morality evolved and functions, from the flaws and shortcomings of judicial and political systems of various regulations and laws, is that the utilitarian or deontological ethical principles will not be suitable for sustainable development of human research and

society further. All rules can be bent, and any calculation utilitarian calculation is not foolproof. The moral usefulness of deontology and utilitarianism are based on human character, i.e., virtues. The ethics of virtues should be rediscovered, and education should be built on it. Deontology and consequentialism cannot function properly without engaged and critical characters in the hybrid techno-human world.

With so many opportunities to cheat and use AI to do our job, only the commitment to human virtues with critical thinking and honesty can preserve the fundamental integrity of conduct in science and society at large.

We must be realistic. Hybrid human-AI writing and researching will become routine. Historical definitions of plagiarism and original scientific production would be transcended (Eaton, 2023). The scientific community, the most progressive community for knowledge, is full of harmful phenomena, both systemic and individual: the publish-or-perish culture, lack of transparency and accountability, lack of public engagement, and invocational researchers. The ambivalence of this powerful cognitive technological tool will more likely bend toward misconduct without strong scientific human characters. It is no use fooling ourselves. We are in the face of an evolutionist crossroads that can be seen only if you enlarge our paradigm of understanding and drop to the narrow scientific perspective. It is a humanity-scale endeavor, and the scientists are the priests in charge of this task.

Our humanness relies on our religious beliefs, ideological convictions, and lived cultural differences. But we also kill each other because of them, not because of our STEM debates; this is used only to enhance our destructive power. We need not only to resist technology's negative effects but to take "care" of our inextricable relationship with it (Stiegler, 2013). At this moment, the hope is on in the capacity of universities and the academic community to get rid of the veil of ignorance and fulfill their mission to provide comprehensive education, not only specialized competencies, without comprehension, to foster critical thinking and intellectual curiosity, not only intellectual recipes for problem-solving, to prepare students for lifelong reflective learning, advance deep knowledge and understanding, in order to solve real-

world problems and address global challenges. Last but not least, they must preserve and transmit humanistic knowledge and instill the courage to pursue humanistic ideals. This type of knowledge is the only one on which an integrity character can be built upon. Without integrity, no rules or utilitarian-based social systems can ensure scientific progress's trustiness, ethicalness, and accountability. *Calculus ethics* based on deontological rule-fitness and consequentialist *ethical calculus*, like juridical logic, are vulnerable to outrageous flaws without integrity and inquisitive character. Universities are called to provide the critical mass of critical ethical thinkers able to preserve humanness enhanced by its technology, to capitalize on this most valuable asset of human evolution, in order to ameliorate and evolve, thanks to the more profound human mystery of cultural evolution, beyond the blind evolutionary knowledge blossomed from "live in the immediacy and for preservation" (Blaga, 1937). Otherwise, submitted to the blind forces of technological evolution, the expected flourishing transhumanist epoch (Sorgner, 2020) will represent the end of the human chapter in the history of life on Earth. As we have seen, the change can start only from within the social institutions that had the historical mission from the beginning to nurture integrity character, the universities. However, to accomplish its mission, the academic community should become more aware of what represents the recent historical progress of AI and not only passively adapt and innocently use its opportunities.

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RESEARCH INTEGRITY ISSUES AND BEST PRACTICES

Yana Prystupa

Kyryvi Rih State Pedagogical University

prystupa040889@gmail.com

Introduction. In the process of incessant master-streaming and iteration of the educational and scientific space, the emergence of AI, domestic science is increasingly focusing its attention on the issue of research integrity, in particular, in the context of doctoral training, training of young scientists, requirements for the preparation and defense of dissertations, publication of scientific articles, development of ers in the scientific sphere and outside it, etc.

Taking into account the best European experience will allow Ukraine not only to contribute to the development of high-quality domestic research, but also to structure the policy of academic integrity and access to the world scientific level.

Results. Academic integrity is one of the most urgent priorities of European educational and scientific policy and occupies a leading place in the system of governance in higher education and science at both the systemic and institutional levels, and the mechanisms for ensuring academic integrity and the tools for its promotion are implemented in the texts of regulatory and legal acts and program documents in the field of scientific policy of Europe.

In the educational process of the USA, the principles of academic integrity are addressed at all levels: applicants are obliged to conscientiously write articles, scientific and qualification papers on their own, based on their own work. As a result of exposing plagiarism, there will be punishments ranging from an unsatisfactory grade on the exam to expulsion. The culture of academic integrity is spread with the help of such tools as: sites (University of Chicago page "Honest Work and Academic Integrity: Plagiarism"); courses and seminars, some of them are mandatory.

In institutions of higher education in Sweden, there is a practice of having an educational component on academic integrity in many educational programs, and there is also a national system of collecting statistical data on the detection of cases of academic dishonesty with the subsequent preparation of annual reports [1].

Within the Polish experience of combating academic violations, there are discussions on student forums, columns of large periodicals, which makes it possible to combat plagiarism among students. A well-known figure in the field of academic integrity is Marek Wronski, who describes the most high-profile cases of various academic violations not only in Polish, but also in world science: "The lack of action and several weeks of delay in making an official decision disqualifies the dean for the functions he performs, destroying the opinion of his decency and showing that he lacks character and decisive action" [2].

An equally significant contribution is the activity of the European Network of Academic Integrity (ENAI), which has brought together academics from all sectors for research in order to exchange, develop, collaborate and access resources in this field. The Glossary for Academic Integrity (2018), developed by members of the European Network for Academic Integrity (ENAI) community together with Erasmus, which contributes to the formation of a common understanding of academic integrity through the study of new definitions, is becoming widely used and the rediscovery of old terms in a modern interpretation [3].

Conclusion. Thus, the European experience allows us to conclude that research integrity is the most important trend of educational and scientific policy at all levels, which determines its institutionalization and codification. The complexity and multifacetedness of research integrity and dishonesty requires the formation of specific procedures, mechanisms, solutions, as well as the training of competent experts.

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Key words: academic integrity, multifaceted integrity, European experience, legislative base, educational space.

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ARTIFICIAL INTELLIGENCE IN THE EDUCATIONAL AND SCIENTIFIC SPACE IN THE CONTEXT OF ACADEMIC INTEGRITY

Yuliia Samoiloa, Antonina Tkach

*Sumy Branch of Kharkiv National University of Internal Affairs
samoylova_yulya@ukr.net*

Introduction. The process of Ukraine's integration into the European educational and scientific space requires a certain level of quality in the educational sector, therefore ensuring quality education is extremely important. With the active development of information technologies and the appearance of various innovations that can be used during the writing of scientific papers, institutions of higher education increasingly began to pay attention to the issue of compliance with the norms of academic integrity. One of such innovative technologies is artificial intelligence, the use of which has both a number of positive consequences and a negative impact on the concept of academic integrity in the scientific space.

Results. To improve the quality of educational services in Ukraine, international academic standards were implemented to prevent plagiarism as one of the types of violation of academic integrity and the rules for its observance.

Academic integrity is a complex phenomenon that combines the ethical norms of human behavior in the educational and scientific environment and the tools thanks to which scientists are realized in practice. But, on the other hand, there is a certain set of factors that influence the educational institution from the outside or the inside and determine its ability to counteract academic dishonesty.

The education sector is also actively influenced by artificial intelligence innovations, especially in the period of full-scale invasion, when most educational institutions work in remote mode and clear control over any scientific activity is almost absent.

Artificial intelligence is not a fundamentally new phenomenon in the context of academic integrity. However, the appearance of such a service as ChatGPT from OpenAI has become synonymous with the manifestation of academic dishonesty among those seeking education. A chatbot based on artificial intelligence is a neural network that is specially designed and is a personal assistant of a person. Its main functions include: interaction with the interlocutor; providing answers to questions; prompting and giving advice, etc.

Along with significant shortcomings, a number of AI functions can be identified that can be useful in scientific activities: ChatGPT can be used to identify new directions in a certain study; ChatGPT can be used to select a selection of sources with links on a certain topic or direction; ChatGPT has the ability to distinguish the main citation styles, which can be used if necessary bibliographic list, etc.

The active use of special programs for identifying plagiarism of text written by both humans and artificial intelligence, teaching academic writing, observing the principles of academic integrity are important aspects of the problem of academic dishonesty in the context of the use of AI.

Conclusion. As digital technologies with the use of artificial intelligence continue to actively develop, it is important for educational institutions to adapt and use these tools in such a way as to support the

educational process and prepare students for the challenges of the digital world without violating moral and ethical standards.

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TWO DIGITAL ELEPHANTS IN THE ROOM OF ACADEMIC PRACTICES

Pil Maria Saugmann

Eurodoc, Sweden

pilmaria.sugman@eurodoc.net

The world around us is growing increasingly digital and data-intensive, affecting our lives and practices as citizens and researchers in a multitude of ways. We have to ask not only how we ensure that academic research remains trustworthy and transparent as digitalisation disrupts our practices, but we also have to address the question of what the use of artificial intelligence does to the epistemic foundations of scientific knowledge.

In this presentation I will address two challenges we face as researchers due the emergence of generative AI, the need for a more systematic approach to understanding the potential role and use of generative AI in research, and how transparent and reproducible research practices in the increasingly digital future relies of the implementation of an accelerated implementation of Open Science practices in particular that of Open Data.

The first challenge I will address is how the use of artificial intelligence is growing, and is already used extensively in science. When the scientific argument relies on an inexplicable deep neural network, then from the onset of the study it is accepted that a part of the scientific argument will remain opaque. The second is that of potential bias, as in the very heart of generative AI models also lies that they need to be trained on data. Thus, the quality of the training

data is crucial for the quality of the final model. This implies that if the outcome of the AI model is to be trustworthy, the training data has to be unbiased.

Both challenges raise questions about how to ensure transparency and reproducibility of research, and thus to mitigate these challenges I address how Open Science practice, in particular Open Data practices, can help ensure that research, even in the age of generative AI, is trustworthy and reproducible.

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**ACADEMIC INTEGRITY AS THE MAIN FACTOR
IN CREATING A POSITIVE PROFESSIONAL IMAGE
OF A TEACHER AT A HIGHER EDUCATION INSTITUTION**

Mykola Shcherbyna, Olena Skorbach

Kharkiv National Medical University

oi.skorbach@knu.edu.ua

Introduction. The relevance of the problem mentioned by us, namely academic integrity, is dictated by the modern challenges of society. Society has always made high demands on the teacher's professional pedagogical activity and his image, since education is the main factor in the socio-economic, intellectual and spiritual development of society. First of all, high-quality professional training of future specialists depends on the teacher's personality, since high-quality higher education is impossible without compliance with the norms and principles of academic integrity.

Adherence to academic integrity is, directly, the formation of intellectual dignity, the development of honesty and responsibility of all participants in the educational process in educational institutions.

A number of modern scientific and pedagogical sources emphasize the need to observe academic integrity, which appears acutely in all

fields of science and attracts the due attention of scientists and teachers not only in Ukraine, but also throughout the world.

Ukrainian scientists I. Osadchenko and T. Karpuk focused on the specifics and essence of the concept of "academic integrity" in the context of scientific and pedagogical activity, focusing on the realities and prospects of this phenomenon [1].

Researchers E. Artamonov and O. Ryzhko found out common and different reasons for violation of academic integrity, which concern students, young scientists and experienced scientific researchers [2, 3].

Academic integrity is determined as the main component not only of the international image of the university, but also of the teacher of the higher education institution. Therefore, the development of the system of academic integrity became an important area of activity of Kharkiv National Medical University and the Department of Obstetrics and Gynecology № 1 in particular. The university has improved the regulatory framework on issues of academic integrity. Taking into account the current legislation (Article 42 of the Law of Ukraine "On Education" and the Law of Ukraine "On Higher Education"), the teaching staff of our department works to prevent, hinder and stop manifestations of academic dishonesty by creating a positive, favorable and virtuous educational and scientific environment.

It is the teacher who provides systematic informational influence, forms ideas, values, and patterns of behavior in each student of education. The responsibility for observing the main principles of academic integrity during the implementation of scientific and pedagogical activities and scientific research is the duty of every member of the scientific and pedagogical community.

Systematic review of the scientific text, in particular theses, articles, dissertations, is usually carried out by the scientific supervisor and reviewers. The university also approved the procedure for submitting theses for checking the presence of textual borrowings to the board of the Scientific Society of Students, Postgraduates, Doctoral Students and Young Scientists. Scientific work is checked for textual borrowings through the service [StrikePlagiarism.com](https://www.strikeplagiarism.com). After a successful check for the presence of textual borrowings, the

authors of scientific papers can submit a scientific work to the selected conference. Adherence to the principles of academic integrity affects the reputation of the department and the educational institution where students study and teachers and scientists work. It should be noted that warning, and not prosecution, is the main component of the department's policy on ensuring academic integrity of all participants in the educational process.

Conclusion. Considering all the above, it becomes obvious that professionalism, depth of knowledge is an important component of the image of a modern teacher. In his professional activity, the teacher must rely on state laws, regulations, university statutes and codes of the scientist, professional, ethical, scientific aspects of the regulation of the activity of the institution of higher education, act in professional and educational situations from the standpoint of academic integrity.

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Key words: integrity, values in science, copyright, plagiarism.

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ARTIFICIAL INTELLIGENCE IN EDUCATION: NEW LEVELS COGNITIVE PROCESS

Svetlana Shumakova

Kharkov State Academy of Culture

svetlana-klr@ukr.net

Introduction. Today, humanity is totally absorbed by the maelstrom of technologies that “penetrate” all spheres of life. And cognitive processes are unstoppably taking on new forms, in particular, artificial intelligence technologies are confidently entering our everyday life, which are no longer considered a fantastic future, but are becoming a permanent element of modern realities.

Despite the development of rather “heated” polemics about the use of artificial intelligence, technologies are gaining more and more influence on our lives. Educational ideas relatively artificial intelligence, as the analysis of numerous articles reveals, gravitates towards the idea that services and tools of artificial intelligence are able to contribute to filling gaps in learning, which, in turn, eliminates ineffective educational strategies (for example, working with printed literature, which is less and less are currently being addressed, and which is in danger of manifesting as a certain atavism – printed literature is gradually becoming a less effective teaching tool). It can be assumed that artificial intelligence can be decisive in the “reformatting” of the modern education system, meanwhile, it can also be a challenge for education.

The purpose of the publication is to evaluate the use of artificial intelligence in the educational process as a factor of influence.

Methods. The implementation of the formulated goal of this publication is seen in the use of a problem-analytical approach as a basis for building a research logic: a synthesizing analysis of existing scientific research theoretical developments and publications of domestic and foreign authors from the selected problem area, what

makes it possible to expand ideas about artificial intelligence in education on a variety of interconnected levels of management of the educational process and educational product.

The results obtained. The use of artificial intelligence services and tools can in a certain way improve the quality of education, significantly increasing the student's success rate. In particular, we are talking about the following factors influencing the implementation of the learning process:

- effective processing of large-scale materials (scientific, journalistic literature, video content, etc.);
- productivity in the temporal sense of performing research intelligence in the direction of automation of certain processes both in research and in the educational process as a whole;
- new levels of creativity;
- acquisition of knowledge and constant improvement of analytical and research competence (construction of research logic, identification of key aspects, outline of research procedures) during not only training in an educational institution, but also throughout life as individualized training according to a self-determined educational trajectory and pace.

At the same time, it is necessary to emphasize the extremely negative factors of influence on the educational process due to the ubiquitous involvement of artificial intelligence in it, namely:

- non-independent performance of tasks – dependence of the education seeker on technologies;
- a fundamental reduction in the need for educational efforts by the education seeker.

Conclusion. This publication, without a doubt, does not exhaust the analysis of the mentioned problem, only outlining the outline of the use of artificial intelligence in the educational process as a factor of influence. Prospects for further research consist in a multi-aspect scientific analysis of the effects and risks of the total involvement of the latest technologies in the educational process.

Key words: artificial intelligence; controversy over the use; risks.

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OPEN AI AND OPEN SCIENCE: THE INFLUENCE OF ARTIFICIAL INTELLIGENCE ON MAINTAINING ACADEMIC INTEGRITY IN OPEN SCIENCE

Shiva D Sivasubramaniam

*School of Human Sciences, University of Derby, UK
s.sivasubramaniam@derby.ac.uk*

Introduction. Open science not only assists academics to gain international esteem and establish global scientific experience enhancing collaborative opportunities, but also takes the innovation/inventions of modern science to everyone. It also speeds up the process of addressing medical issues that require a wider global approach. The emerging trend of using open-AI in science/publication have on one hand created new opportunities for increasing accessibility, but on the other hand these transformative tools, have produced challenges, such as inaccuracies in information, biases in source content etc. Open-AI's lack of transparency in development questions the basic ethos of open science. This presentation is based on a current explorative fact-finding study looking at the academic views on the influence of open-AI on open science.

Materials and Methods. This is a part of an ongoing qualitative discussion-based study based on individual opinion about the influences of open-AI (and/or generative AI) on open science. The study gained institutional ethical approval which will be extended by seeking approval from other intended institutions.

So far, around 11 academics and post-doctoral researchers in the fields of medical and healthcare sciences were interviewed.

Results. Although the opinions of the participants are somewhat varied, the overall the concept was optimistically welcomed the use ethical use of open-AI to promote open science. All the interviewees agreed the open-AI will become "reconciled" into science and

scientific publications. Some argued further about effectively using open-AI as a tool of innovation in diagnosis, patient management and in treatment. On the other hand, others argued strongly about the threat to academic integrity and its racial and gender bias. They added that by being biased, the open-AI will destroy the very basic spirit of offering a global scientific experience. On the learners perspectives, they were afraid the use of open-AI would result in lack of higher-order cognitive skills. Interestingly, all the participants insisted on having a legislative control making sure the ethical use of open-AI in open science.

Concluding remarks. The preliminary data from this study has suggested the importance of careful adaptation/application of open-AI into open science and urged a need for a globally enforceable policy framework for the use of open-AI in science.

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UNESCO'S WORK AS A CHALLENGE TO PROMOTE INTEGRITY

Kateryna Slipeykh

Interregional Academy of Personnel Management

katerine.slepykh@gmail.com

UNESCO is a United Nations organisation working in the fields of education, science, culture and communications. The main purpose of UNESCO is to preserve the world's cultural and natural heritage, to stimulate scientific research and to promote a society of integrity. Integrity, in turn, is a high moral quality, commitment to the principles of honesty, and responsibility in relations with other people. Integrity is an important factor for building trust and harmonious relations in society. It is important to note that integrity is a fundamental value that contributes to building a better future for

everyone and to the development of society as a whole. In its turn, UNESCO also actively promotes the practice of integrity in educational programmes and projects, helping to form the right values and moral skills in the younger generation.

The organisation promotes integrity through its programmes and initiatives. One such programme is Global Smart for Integrity. This programme aims to educate young people by providing them with the necessary knowledge, skills and values to promote integrity in society. UNESCO's initiatives are also aimed at supporting civil society organisations and cultural projects that promote integrity and ethical values. The organisation conducts an information campaign to raise public awareness of the importance of integrity in the modern world.

UNESCO, which is the United Nations Specialised Agency for Education, Science and Culture, plays an important role in the development of integrity through its various initiatives. Let us consider several aspects of its influence in this area:

1. Education and freedom of expression:

UNESCO promotes education and development, including the development of integrity and ethics education, and protects freedom of expression, which is a key aspect of detecting corruption and exposing malpractices.

2. Promoting international cooperation:

UNESCO is a forum for the international exchange of ideas and experiences in the fields of culture, education and science, which contributes to the development of integrity standards.

3. Preservation of cultural heritage:

Protects and promotes the preservation of the world's cultural heritage, including virtuous values and traditions.

4. Ethics education programmes:

UNESCO develops and supports ethical education programmes that aim to promote virtuous values among young people.

5. Fighting corruption:

UNESCO leads projects and initiatives to fight corruption in the educational and cultural spheres.

6. Creating a culture of peace and understanding:

Promotes a culture of peace and understanding through intercultural dialogue and cooperation.

UNESCO helps to define, promote and protect virtuous values in various spheres of society. Its activities are aimed at supporting the principles of justice, freedom and equality to create a more just and fair world.

As such, UNESCO plays an important role in promoting integrity through its programmes, initiatives and standards, which aim to support sustainable development and build just and ethical societies.

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Key words: UNESCO, integrity, promoting integrity, international influence.

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META-LEARNING APPLICATION INTO HIGHER EDUCATION INSTITUTIONS OF GREAT BRITAIN

Olena Smolnikova

Myhaylo Drahomanov Ukrainian State University

Smoll1937@gmail.com

Giving state importance to solving the issues of effective and active students' education in Great Britain led to the development of the "learning to learn" – meta-learning idea, which was studied by constructivist psychologists J. Kelly and K. Rogers. The meta-learning concept has become a principle of modern education in Great Britain. It was caused by the pressing needs of the country's economic growth in the 1990s.

In the report of the National Committee of Inquiry into Higher Education (NCIHE) ("Dearing Report (Higher Education in the learning society)") (1997) "meta-learning" was defined as a key learning skill and recommended for use in academic programs of universities (recommendation 21) " (p. 28). In a relatively short time, the Committee created the "Action Plan for supporting and developing basic academic skills in higher education" (Supporting Key Skills Achievement in Higher Education (DfEE2), primarily "learning to learn". British universities joined the implementation of this project, in particular, the Vocational Qualification Assessment Centre (VQAC) at The Open University, where a study was conducted within the framework of the project involving tutors in the development and application of educational materials and technologies in order to develop critical thinking skills reflection, the ability to make own decisions and increase the student learning effectiveness (Murphy, 2007, p. 91 – 92). The main goal of the study was the development of meta-learning in the distance education context.

The idea of meta-learning was developed by S. Harri-Augstein and L. Thomas. They developed a methodological approach according to which students had to control their learning in the direction of self-organization. In the presence of a goal, strategy and learning result, students realize its meaning, which forms the ability to independently investigate and improve the quality indicators of learning (Fahim & Zaker, 1991, p. 24).

In order to introduce the concept of meta-learning, the Fund for the Development of Teaching and Learning (FDTL) launched the projects "Development of professional skills of students of non-linguistic majors studying a foreign language" and "Curriculum and independent training for students", which were based on classroom training. Fifty universities of Great Britain became project partners. It was emphasized that the responsibilities of higher education institutions include the use of mixed forms of education, to promote the formation of graduates' readiness for work in the conditions of an information-rich society and the growing importance of meta-learning in the development of academic courses (Arnold & Thompson 2014).

In particular, at Anglia Ruskin University, a study was carried out on the possibilities of using blended learning, which includes online learning, practical and research-based learning and provides a high degree of their autonomy to facilitate meta-learning and the study of its educational resources. It was emphasized that the responsibilities of universities include the education mixed forms using, the promotion of graduates' readiness for work in the conditions of an information-rich society, and the growing importance of meta-learning in the academic courses development (Arnold & Thompson 2014).

On the basis of M. Coats' educational and methodological manual for teachers "Learn how to learn", the Open University launched a project to develop practically useful skills of students so that they can achieve the goal of "learning to learn". A group of teachers improved the author's developments in accordance with the requirements of the university project and introduced them to the students studying second language. The methodical materials consisted of a section for testing skills, determining learning

priorities, self-control, reflection, learning outcomes, a section for tips and recommendations on how to perform tasks and develop skills (Coats, 1991, p. 195).

Great Britain's experience in the application of meta-learning, ideas of learning to learn throughout life is also relevant for the national education system. A university graduate with developed meta-learning skills increases own competitiveness and efficiency in all spheres of life.

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Key words: distance education, higher education, learning to learn, meta-learning, second language learning.

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**ARTIFICIAL INTELLIGENCE
AND ACADEMIC INTEGRITY IN EDUCATIONAL
INSTITUTIONS OF UKRAINE**

Anastasiia Sokolova

*Artificial Intelligence and Academic Integrity in Educational
Institutions of Ukraine*
anastasiiasokolova77@gmail.com

Introduction. One of the main principles of Ukrainian and global education reform is the principle of academic integrity. In the conditions of globalization changes in society, issues of academic integrity are particularly relevant for modern higher education.

But there are also cases of violation of academic integrity, for example, plagiarism, copying, etc. In such conditions, the use of innovative AI technologies is important for ensuring academic integrity in educational institutions. This is a great potential for improving the quality of education and training of competitive specialists.

Academic integrity is a set of ethical principles and rules that all participants in the educational process should be guided by. The goal of academic integrity is to ensure trust in learning results and scientific (creative) achievements [2, p. 42, item 1]. The core values of academic integrity are honesty, fairness, trust, respect, courage and responsibility [1, p. 395–396].

The main violations of academic integrity are academic plagiarism, fabrication, self-plagiarism, falsification etc. Plagiarism checking, evaluation of works, analysis of stylistics and grammar are innovative AI technologies that can be used to ensure integrity in educational institutions of Ukraine.

Thanks to artificial intelligence, various functions are implemented that make it possible to recognize and analyze text. O. Zaichenko and Yu. Zaichenko [3, p. 48] single out the following functions:

language recognition, machine translation, topic definition, recognition of abbreviations and headings, detection of linguistic units.

Results and conclusion. Therefore, the use of innovative AI technologies in educational institutions of Ukraine can be considered as a means to ensure academic integrity. It will help to improve the quality of education, prevent violations of academic standards, and promote the development of the students' competencies. However, it should be noted that artificial intelligence has its limitations and cannot fully evaluate creativity and contextual aspects of works. Because of that, verification by the experts is an important condition for confirming the accuracy of the results [1, p. 399–404].

It is advisable to focus further scientific research in this direction on the analysis of the possibilities of improving innovative technologies of artificial intelligence to ensure academic integrity in educational institutions of Ukraine.

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of the remote stage of scientific training for educators, 60–66 [in Ukrainian].

Key words: academic integrity, artificial intelligence, educational institutions, innovative technologies, academic standards.

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CONFLICT OF INTERESTS DETERMINATION WITHIN THE EXPERTS' ACTIVITIES OF UKRAINIAN NATIONAL EDUCATIONAL AND SCIENTIFIC BODIES

Serhii Stepenko

Chernihiv Polytechnic National University

serhii.stepenko@stu.cn.ua

Introduction. The conflict of interests (COI) can significantly reduce the quality or completely destroy the objectivity of expert assessment of educational and/or scientific achievements. The appropriate declaration and dealing with COI is a substantial background for ensuring academic and research integrity. The objective of this research is to analyze the criteria for a COI determination within the research projects evaluation (RPE) and educational programs accreditation (EPA) by the experts of appropriate Ukrainian national educational and scientific bodies.

Materials and Methods. In this study, the category 'Ukrainian National Educational and Scientific Bodies' comprises Ministry of Education and Science of Ukraine (MESU), National Agency for Higher Education Quality Assurance (NAQA) and National Research Foundation of Ukraine (NRFU).

Results. Within the RPE by MESU, the experts should follow the Expert Code (2022). It is determined, that a COI exists if the expert: 1.1) participated in the project preparation; 1.2) has a direct/indirect

benefit in case of financing the project; 1.3) has a close family (husband/wife; woman/man living in the same family, but not married (civil partner); child, brother/sister, father/mother, etc.) or personal relationship with the PI/responsible executor of the project; 1.4) has joint publications with the PI during the last 3 years; 1.5) was a scientific supervisor or scientific consultant of the PI/responsible executor; 1.6) has or had a scientific rivalry/professional enmity with the PI of the project. According to NAQA rules (2019), the expert group (EG) does not include experts who work (including part-time) or study at a relevant HEI, or in the presence of other circumstances indicating a real or potential COI. Within the invitation to EPA, NAQA alarms: experts who have a real or potential COI are not included in the EG, in particular in the following cases: 2.1) EG members work (worked) and study (learned) in the same HEI during the last 5 years; 2.2) the expert is a founder/member of the supervisory board, an employee/student at HEI where EPA takes place; 2.3) during the last 5 years, the expert was a founder/member of the supervisory board, an employee/student at HEI where EPA takes place; 2.4) the expert is a relative/close person or has another private interest in a person studying at/guarantor of/employee involved in the implementation or founder/head/deputy head of the HEI, where EPA takes place. The criteria for COI determined clearly by NRFU (2023) and comprise: 3.1) family relations with project team members (PTM); 3.2) employment (in the last 3 years prior to the call) in an organization that is a participant of the project; 3.3) a member of supervisory/controlling bodies in an organization that is a participant of the project (in the last 3 years prior to the call); 3.4) a scientific supervisor of at least one of the PTM; 3.5) a scientific supervisor among the PTM (in the last 3 years prior to the call); 3.6) joint scientific publications with at least one of the PTM or participated in joint scientific projects (in the last 3 years prior to the call); 3.7) personal conflict with at least one of the PTM; 3.8) other close scientific or commercial cooperation that may affect objectivity of the RPE; 3.9) other direct scientific/commercial competition that may affect objectivity of the RPE; 3.10) PI/PTM involved in expert reviewing, consideration and rating.

Conclusion. The considered approaches differ in their criteria. They should be further analyzed in detail taking into account completeness and appropriate time frames. The NRFU approach looks the most complete among the analyzed.

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Key words: academic and research integrity; conflict of interest (COI); Ministry of Education and Science of Ukraine (MESU); National Agency for Higher Education Quality Assurance (NAQA); National Research Foundation of Ukraine (NRFU).

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ARTIFICIAL INTELLIGENCE AND RESEARCH INTEGRITY: TURKISH POINT OF VIEW

Tetyana Tarnavska

Taras Shevchenko National University of Kyiv

tarnavskaya@ukr.net

Introduction. Artificial intelligence (AI) is entering our lives incredibly quickly, making scientists rethink the way we integrate data for analysis and use the resulting insights to make better decisions. However, no one can fully realize the vast opportunity that

AI can represent. It is expected that science can make leaps forward thanks to the power the new technology provides us. The statements about its potential to autonomously generate knowledge is a case in point. On the other hand, the potential of AI reaches far beyond the front line of collecting data, and we are deeply concerned that the integrity of scientific research will suffer by depriving it of the abilities of the human mind unless the AI is used within ethical boundaries. There is no place for ambiguity and uncertainty. Scientific communities unite in opposing plagiarism and other forms of dishonesty. In this study, we explore the experience of the Turkish Republic to identify their best practices.

Results. The promise and peril of using AI in scientific research are being actively discussed by Turkish researchers. Aydin Yildiz & Yağci (2023) conducted a study and found that ChatGPT4, when asked to recommend articles about language teaching or learning technologies, offers randomly selected results without taking into account factors such as author popularity, journal indexing, etc. The authors identified quite a lot of discrepancies and came to the conclusion that scientists can use ChatGPT4 as a data source only after a very thorough analysis.

According to Livberber and Ayvaz (2023), AI, along with being a powerful supporting tool in scientific research, can also serve as a source of inspiration for new topics and areas of research. The authors share Islam & Islam's (2023) concerns that researchers may become dependent on AI applications, leading to weaknesses in productivity and critical thinking skills.

Conclusion. The initially stated aim of this study was to explore the experience of Turkish scientists in the field of using AI in their research. Having analyzed the outcomes, we came to the conclusion that they once again confirm the necessity of proper and continuous training in dealing with AI tools in academia.

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Key words: artificial intelligence, academic integrity, plagiarism, ChatGPT, scientific research.

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THE ROLE OF AI IN SHAPING FUTURE LEARNING: INSIGHTS FROM LITHUANIA

Kotryna Tomkevičiūtė

OXSICO

kathy@oxisco.com

Introduction. This abstract explores the evolving role of Artificial Intelligence (AI) in education, with a focus on its implications in Lithuania. The research provides background information and objectives, highlighting the need for a deeper understanding of AI's impact on learning in K-12.

Materials and methods. The methodology includes a comprehensive review of current AI applications in education, complemented by a survey among Lithuanian students (K-12) to assess their awareness and usage of generative AI tools. Conducted from September 15th to September 23rd, 2023, the study employed a mixed-method approach comprising face-to-face interviews and self-administered questionnaires. The probabilistic sampling strategy aimed to representatively cover various demographic variables: age, sex, place of residence, and school/class distribution. The survey was

carried out in six Lithuanian municipalities to ensure a diverse representation of the country's educational landscape. In total, 504 secondary school students from II, III, and IV grades participated.

Results. The survey uncovered varying levels of awareness and use of AI tools among students. The data showed that a vast majority 85% of students are aware of tools like "ChatGPT" and "Bard," with 79% using them in the learning process and 68% for homework or essay writing. Usage frequency varied, with 5% using AI tools daily, 20% several times a week, and 33% about once a month. Furthermore, 52% of students are planning to use AI tools in the future.

Conclusion. The findings indicate an increasing influence of AI in education, underscoring the need for a balanced approach that addresses ethical use, academic integrity, and the development of relevant skills and competencies through AI. The goal of K-12 education should be to provide students with a well-rounded learning experience that not only covers academic content but also fosters critical life skills with AI.

Key words. Artificial Intelligence, Education, Lithuania, EdTech, Academic Integrity, OXSICO

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IMPROVEMENT OF VESSEL OPERATION EFFICIENCY WITH RESPECT TO ENERGY EFFICIENCY AND SAFETY INDICATORS

Dmytro Voloshyn

Odessa National Maritime University

dimitriyvoloshin@gmail.com

Introduction. Today, modern maritime transport faces significant challenges in terms of energy efficiency and safety. Increasing demands on the energy efficiency of the world fleet are a consequence of growing environmental awareness and the need to reduce emissions and fuel consumption. The energy efficiency of ships is becoming an important factor in ensuring the sustainable development of maritime transport and reducing its impact on the environment. In the context of increasing environmental requirements and the desire to reduce operating costs, the issues of efficient use of energy while ensuring safety of navigation are becoming increasingly important. For this reason, research into the energy efficiency of ships and the evaluation of its impact on operational safety is of great relevance and importance.

Materials and Methods. Energy efficiency and ship safety are two important aspects of maritime transport that are essential for economic efficiency, environmental protection and maritime safety. Ship safety is primarily concerned with the protection of crew, cargo and the environment. Energy-efficient technologies in shipping contribute to economic efficiency, reduce fuel costs, reduce greenhouse gas emissions and, most importantly, they aim to increase the manoeuvrability of the ship, reducing the likelihood of it getting into emergency situations; the choice of energy-efficient materials and the optimisation of the structure and hull increase the ship's resistance to adverse conditions. The main objective of my research is

to evaluate the impact of the ship's energy efficiency on its operational safety.

Improving the ship's energy efficiency leads to a reduction in fuel consumption and savings in operating costs. This is especially important in the context of high fuel prices and strict emissions regulations. Increased energy efficiency also contributes to the sustainable operation of the vessel in the long term.

Results. Implementing modern technologies and systems can enhance the safety of the vessel. For instance, the installation of efficient engine control systems, automated control and surveillance systems, and communication and navigation devices can improve the ship's reliability, thus mitigating any potential emergency situations.

International organizations such as the International Maritime Organization (IMO) are actively promoting the improvement of energy efficiency and safety of ships. The introduction of various regulations and recommendations to improve the efficiency of ship systems and operations ensures compliance with high safety standards and contributes to reducing risks.

Conclusion. Analyzing the relationship between energy efficiency and ship safety makes it possible to obtain information about the influence of various factors on ship safety and to use this model to predict the safety of new ships based on their characteristics.

Key words: Maritime Transport, Energy Efficiency, Modern Technologies, Sustainable Development, Ship Safety.

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INTEGRATING SUBJECTIVATION PROCESSES IN PEDAGOGICAL APPROACHES TO FOSTER ACADEMIC INTEGRITY

Maryna Vyshnevskya

*Kyiv National University of Technologies and Design,
National Academy of Educational Sciences of Ukraine
vishnevskya.mo@knutd.com.ua*

In the dynamic landscape of higher education, maintaining and promoting academic integrity are cornerstones of ethical scholarly practice. However, the current challenge is not solely enforcing regulations but also ingraining a profound sense of ethical responsibility and personal commitment. The concept of subjectivation emerges as a pivotal and transformative lens through which pedagogical innovations can profoundly impact and foster academic integrity within higher education institutions (HEIs).

Subjectivation offers a promising approach to promoting academic integrity by emphasizing the interplay between individual subjectivity, identity formation, and ethical decision-making. Under this paradigm, students are active contributors to their ethical growth in academic settings, taking into account their beliefs, values, experiences, and social contexts. In contrast to conventional methods in higher education that often rely on adherence to regulations, subjectivation addresses students' deeper motivations and ethical reasoning. This paper examines the integration of subjectivation into pedagogical strategies to engage students in upholding academic integrity. The paper presents practical frameworks and theoretical insights that reveal effective methods for students to actively shape their ethical behavior. This integration empowers students to internalize and uphold ethical values, creating a culture of integrity within Higher Education Institutions [1].

Integrating subjectivation processes within pedagogical approaches involves a fundamental shift from passive rule enforcement toward active engagement with students' ethical development. This integration necessitates a departure from traditional didactic methods toward fostering critical reflection, self-awareness, and ethical reasoning among learners. By acknowledging students as active participants in their ethical journey, pedagogical strategies can be tailored to stimulate introspection, encouraging students to comprehend the underlying values, norms, and ethical dilemmas inherent in academic pursuits. It involves creating learning environments that nurture a sense of ownership and responsibility regarding academic integrity, fostering a deeper connection between personal identity and ethical conduct. Integrating subjectivation processes thus seeks to empower students not only with knowledge but with the ethical agency to navigate complex academic landscapes with integrity and ethical conviction [2].

In higher education, academic integrity demands more than rules – it requires a profound ethical commitment. Subjectivation offers a transformative lens for pedagogical innovation in fostering this integrity. By engaging students as active participants in their ethical development, subjectivation intertwines personal identity with ethical decision-making, promising to cultivate a robust culture of integrity. This approach shifts from enforcing rules to nurturing critical introspection, empowering students to navigate academia with a deep commitment to integrity. Integrating subjectivation into pedagogy marks a transformative journey toward instilling ethical values within academic communities.

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PROBLEMS OF INTEGRITY IN SCIENCE

Anatolii Yareshko, Maryna Kulish, Alla Vorodyukhina

Poltava State Medical University

m.kulish@pdmu.edu.ua

Today, the research of complex scientific problems, as a rule, is not carried out by individual talents, but by teams of scientific research laboratories, institutions in which different methods of scientific research must be performed simultaneously. For this purpose, teams of employees are formed who are able to perform technological tasks with high quality. It is difficult to imagine that at the same time it is possible to gather honest, fair, trusting, responsible employees who know how to respect and appreciate the research contribution of each member of the team. But, as a rule, in such teams, employees have different levels of qualifications, intellectual training, practical skills and education. Under such conditions, conflicts may arise when determining priorities or the share of research contributions. Such problems are often resolved by agreement. But the history of science preserves other options. Thus, in March 1882, after an unsuccessful attempt to discuss the results of his research with the most authoritative scientist of that time, R. Virkhov, the little-known German microbiologist Robert Koch gave a report at a meeting of the Berlin Physiological Society on the topic "Etiology of tuberculosis", in which he convincingly proved that the causative agent of this disease are mycobacteria, giving a description of their structure, physical and biological properties. The validity of

the results of the conducted research were so convincing that the Union of Physiologists recognized the discovery of the causative agent of tuberculosis and even named the bacterium itself "Koch's bacillus". This decision of the union on the priority of discovering the etiological factor of phthisis by R. Koch was immediately contested by his compatriot Baumgarten. Who stated that he had made a publication a week earlier, in which he showed that the bacteria secreted by the sputum of patients with phthisis, he found in histological preparations of the livers of experimental animals that died after being infected with their sputum. It must be admitted that the priority of discovering the causative agent of the disease, from which at that time almost every 3-4 people died, was prestigious, and Baumgarten appealed to the court, which, after considering the evidence of scientists, confirmed the priority of the discovery by R. Koch, who was later awarded the Nobel Prize, in a court decision awards The history of the development of science preserves other variants of debatable issues of the priority of discovery. Thus, in December 1895, V. Röntgen wrote the article "On a New Kind of Rays", in which he announced that he had discovered previously unknown x-rays. V. Röntgen did not have any publications prior to this article. Back in 1882, Viennese professor Ivan Polyuy first constructed a gas-discharge cathode tube ("Polyuy lamp"), which already had all the main components of a modern X-ray tube and emitted x-rays, with their help he took photographs and studied the gas-discharge properties of cathode rays, which 14 years later will be called X-ray. The results of I. Polyuy's research were public and, without a doubt, V. Röntgen knew about them, they corresponded, but in none of the three publications on x-rays, V. Röntgen did not mention the work of I. Polyuy. The fact that V. Röntgen ordered to destroy all documents after his death, including scientific and personal correspondence, is also suspicious. V. Luftlia, noting the achievements of V. Röntgen, wrote in the article "Who discovered X-rays" "...for the sake of historical truth, it must be stated that it was the Austrian I. Polyuy who discovered X-rays before Röntgen." Similar information is spread on the Internet about the spiral structure of DNA, which was proposed by D. Watson and F. Crick, after

receiving the results of X-ray structural analysis of DNA, which was conducted by Rosalind Franklin. This is not why the high award was devalued so much that one of the laureates sold the Nobel medal. These stories about scientific discoveries are evidence of how difficult it is sometimes to determine priorities, especially if behind them are big money, fame, recognition and social significance of a scientist, it is better not to mention virtue as a category of morality. Often, scientists become vulnerable, especially to employers who can appropriate the intellectual achievements of employees. Under such conditions, integrity does not have the power of protection, this function must be performed by an independent regulatory and legal structure.

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SCIENTIFIC MISCONDUCT: THE MAIN TYPES AND BACKGROUND

Nadiia Yurko, Yuliia Kalymon, Mariia Vorobel

*Ivan Boberskyi Lviv State University of Physical Culture
nau40279@gmail.com*

Introduction. Nowadays, the scientific environment is steadily growing more competitive, hence scientific misconduct has become a matter of consideration to everyone in the academic context. Scientific and academic misconduct is increasingly being noticed today. Even though there are many scholars who are genuinely dedicated to the highest standard of ethics, there are some others who employ scientific misconduct. This may not only result in a scepticism to the publication process, but it also has destructive effects on the area of science in particular and the community in general.

Results. Mainly, there are some patterns of scientific misconduct, the implications of which can influence the professional scientific

environment in a negative way. Varied types of scientific misconduct can be encountered at different stages of the research process, starting from the origination of various types of scientific studies to the publication of research outcomes. This issue is being widely discussed and can be categorized as follows.

Ideas misappropriation. This involves taking someone else's intellectual property, possibly after reconsidering other scholar's article or manuscript, and advancing with the concept as your own.

Plagiarism. It implicates exploiting someone else's opinions, published articles, research papers, or investigation outcomes without citing the author in appropriate manner.

Self-plagiarism. This comprises reprocessing or re-utilising your own publication without a proper citation, which can be avoided by using plagiarism checkers accessible online.

Authorship indecency. It engages requesting unjustified authorship on your own behalf, eliminating data contributors from co-authorship, counting non-contributors as authors, or submitting papers to journals without the agreement of all the authors.

Noncompliance with the requirements. This encompasses intentional infringements of rules relating to the improper usage of research materials, equipment or funding.

Infringement of Acknowledged Research Procedures. It covers the intended misapplication of experiments to produce the desired results, or incorrect describing results to present the preferred conclusions.

Misrepresentation of facts. This consists in total falsification of data, in spite of practicing misapplication of experiments to produce the desired outcomes, listed above.

Invalid support of research. It embraces the failure or refusing to provide the essential information or research material necessary to validate the study results and conclusions.

Disregarding the identified instances of invalid outcomes. This suggests that an article with recognised invalid results should be eliminated from the journal that published it.

Improper actions concerning assumed misconduct. It contains the cases of incorrect cooperation with any statements of misconduct, not informing of assumed misconduct, elimination of any proofs

of misconduct, or intentionally making false statements of misconduct.

Conclusion. The most significant aspects that should be integrated into the general perception of a proper ethical conduct in scientific research include: upholding the highest level of integrity for all research and experiment, publishing outcomes of research in journals and other kinds of media, allowing admission to others in order to replicate the testing outcomes, recognising the contributions of others.

Key words: integrity, misconduct, plagiarism, authorship, research.

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PRINCIPLES OF ACADEMIC FREEDOM AND INTEGRITY AT IVAN FRANKO NATIONAL UNIVERSITY OF LVIV

Zoryna Yurynets¹, Rostyslav Yurynets²

¹Ivan Franko National University of Lviv

²Lviv Polytechnic National University

zoryna_yur@ukr.net, rostyslav.v.yurynets@lpnu.ua

Introduction. Studying the principles of academic freedom and integrity at Ivan Franko National University of Lviv is important for several reasons: academic freedom and integrity are essential for the pursuit of knowledge and truth, the preservation and transmission of knowledge, and the reputation and standing of Ivan Franko National University of Lviv.

Materials and Methods. Case studies for examining specific cases of academic misconduct or academic freedom violations to learn from them.

Results. Ivan Franko National University of Lviv promotes academic integrity among higher education students. Applicants have

the right to study a discipline of their choice, taking into account the «Regulations on the Procedure for Ensuring the Free Choice of Disciplines by Higher Education Applicants at the Ivan Franko National University of Lviv» [1]. Academic mobility is an element of the implementation of academic freedom for applicants, and applicants have the opportunity to choose an exchange program abroad and study for a whole semester (academic year) at a foreign partner university.

Several documents have been developed at Ivan Franko National University of Lviv that contain policies, standards and procedures for maintaining academic integrity: «Code of Academic Integrity of the Ivan Franko National University of Lviv»; Regulation «On Ensuring Academic Integrity at the Ivan Franko National University of Lviv»; «Declaration of Academic Integrity by an Employee of the Ivan Franko National University of Lviv»; «Declaration of Academic Integrity by a Student of the Ivan Franko National University of Lviv» [1].

Students of the educational program sign a declaration of academic integrity by the applicant for higher education at Ivan Franko National University of Lviv. All qualification works are checked for compliance with the rules of academic integrity, the printed version is stored in the university archive, and the electronic version is placed in the university repository. Based on academic freedom, students take part in various events related to scientific, educational, research and development activities that take place both in Ukraine and abroad. The university holds university-wide events to promote academic integrity: seminars, webinars, and round tables. The reaction of Ivan Franko National University to violations of academic integrity is defined by the Regulation «On Ensuring Academic Integrity» [1] and provides for measures of influence and sanctions.

Conclusion. Academic staff of the Ivan Franko National University of Lviv ensure academic integrity by raising their professional level through self-development and self-improvement; providing quality educational services with the involvement of innovative developments in the field of education; independent establishment and selection of the structure and methods of lectures and practical,

seminars, types of teaching materials, teaching format; impartial and objective assessment of students' learning outcomes, ensuring a friendly environment in the university. Adherence to the principles of academic freedom is realized by students through the acquisition of knowledge, the formation of competencies by their vision and needs; free choice of academic disciplines and forms of education, research guidelines in the process of writing a term paper or qualification work, independent completion of educational tasks, etc.

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Key words: academic freedom, integrity, university, academic staff, students.

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THE POTENTIAL IMPACT OF GENERATIVE AI ON OPEN SCIENCE AND REPRODUCIBILITY

Tony Ross-Hellauer

Open and Reproducible Research Group, TU Graz (Austria)
tross@know-center.at

Recent advances in Large Language Models (LLMs) have captured the public attention and raised interest in the potential for such AI technologies to transform workflows across a range of areas, including scientific work. Rich experimentation is already underway to examine their potential in reshaping scientific tasks including information retrieval, data analysis, data synthesis, quality assurance and more. This comes, however, at a time when many disciplines are addressing what has been termed a “reproducibility crisis”, with systematic replication, prevalence of questionable research practices

and lack of transparency casting doubt on the robustness of results. Touching on issues of reproducibility, bias and transparency in LLMs, and engaging with recent exploratory work on use-cases for LLMs in science, this talk will examine the potential for LLMs to both help and hinder improvement on Open Science, reproducibility and trust in scholarly knowledge.

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