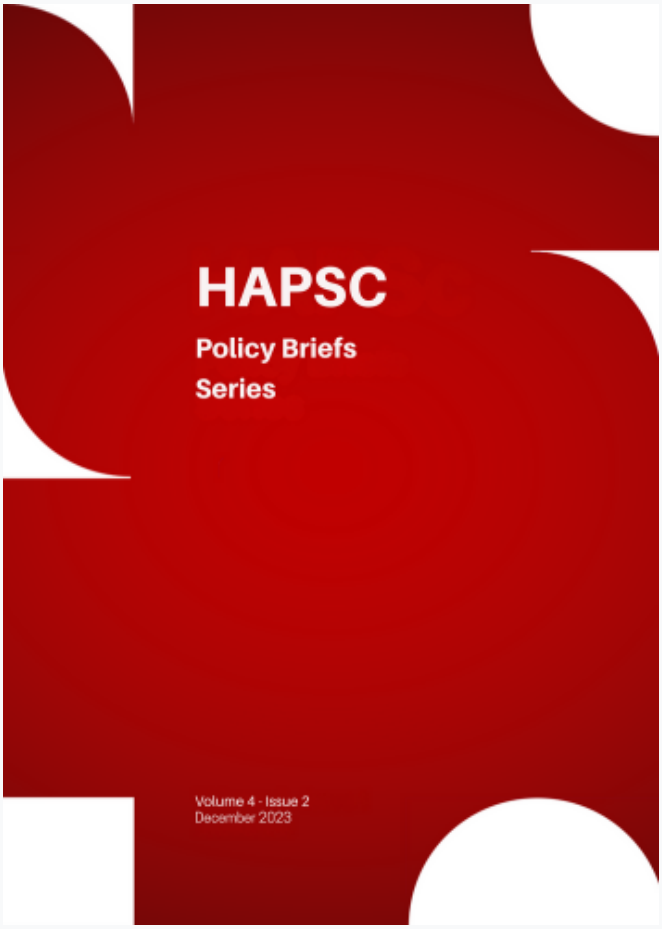
HAPSc Policy Briefs Series

Vol 4, No 2 (2023)

HAPSc Policy Briefs Series



Pondering Deeper, Ahead and Beyond Over the Use of ChatGPT in H(A)Igher Education

Elena Soroliou, Maria Ontil Kritikou, Sotiris Antonopoulos, Anna Kania

doi: 10.12681/hapscpbs.36697

To cite this article:

Soroliou, E., Kritikou, M. O., Antonopoulos, S., & Kania, A. (2023). Pondering Deeper, Ahead and Beyond Over the Use of ChatGPT in H(A)Igher Education. *HAPSc Policy Briefs Series*, *4*(2), 178–193. https://doi.org/10.12681/hapscpbs.36697

Pondering Deeper, Ahead and Beyond over the Use of ChatGPT in H(A)Igher Education[1,2]

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Abstract

While within the last months several studies reveal the real and full implementations of the cutting edge ChatGPT in higher education institutions, a comprehensive examination of its potential at the micro and macro levels of higher education is crucial. To address this gap, this policy brief scrutinises the integrated and potential capabilities of ChatGPT through three lenses-levels: student-facing, teacher-facing, and system-facing advantages, disadvantages, blind spots, challenges, and risks. The core aim of this policy brief is to research and shed light on a robust and nuanced understanding of the level of (in-)appropriateness of ChatGPT's use in higher education among core stakeholders, i.e. educators, students, and administrators, who co-sign an "educational contract" via core emerging trends and implications. Finally, a set of applicable recommendations is presented for policy makers, other interlocutors, and future researchers, in order to walk the talk for a more ethical, inclusive and equitable use of AI in higher education, since a "one-size fits all" approach should be strongly avoided.

Keywords: Artificial Intelligence, higher education institutions, ChatGPT, students, academics, advantages, disadvantages, challenges, concerns and risks.

Introduction

ChatGPT[7] - which stands for a real Artificial Intelligence ("AI") sensation (Gilbard, 2023) and "generative pretrained transformer"- has been characterised as the scientific and technological breakthrough of the decade (Llaners, 2023). Five days after its official launch, more than 1.000.000 people had signed up to use it (Buchholz, 2023), while it reached 100 million users two months later (Milmo, 2023). ChatGPT's thousands of supporters thrive on its capabilities in astonished and grandiose terms, especially due to its speedness, technical ascendance/predominance and interesting

[1] To cite this paper in APA Style: Soroliou, E., Kritikou, M. O., Antonopoulos, S., & Kania, A. (2023). Pondering Deeper, Ahead and Beyond Over the Use of ChatGPT in H(A)Igher Education. *HAPSc Policy Brief Series*, *4*(2), 178-193. https://doi.org/10.12681/hapscpbs.36697

[2] This Policy Brief was produced in the framework of the Erasmus+ Project "Environmental and Digital Citizenship: Fostering Youth Engagement for a Safer Environment and Responsible Use of ICT" funded by the European Commission.

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[7] According to the United Nations Educational Scientific and Cultural Organisation (2023, p. 5) "ChatGPT is a language model that allows people to interact with a computer in a more natural and conversational way. ChatGPT uses natural language processing to learn from Internet data, providing users with artificial intelligence-based written answers to questions or prompts".

combinations of information (Roose, 2022). Unavoidably, ChatGPT could be described as "smarter", weirder, more flexible and interactive in comparison with other Natural Language Processing[8] ("NLP") previously used technological models and flattering chatbots. In detail, ChatGPT also seems to be ominously good at answering the types of open-ended analytical questions, frequently appearing on higher education assignments. Due to these reasons, plenty of educators have predicted that versatile ChatGPT, and similar tools, will spell the end of homework and take-home exams (Roose, 2022).

Picture 1: Titles from well-known newspapers in a global level for the wide use of ChatGPT

This policy brief mainly focuses on ChatGPT's most important advantages and disadvantages, challenges and risks for the signees and signers of the educational contract in and for the academia, i.e educational and administration staff, and students. The subject is approached via three levels-lenses: the teacher-facing, the student-facing and the system-facing tools and characteristics, while exploring ChatGPT's core advantages and disadvantages. Additionally, the policy brief aims to:

a) underline the access to ChatGPT's functionality;

b) shed wider light to its designers' and users' proactivity and foresight, and

c) highlight that its use by people will show that it can be a double-edged sword.

[8] According to IBM (2023) "Natural Language Processing ("NLP") refers to the branch of computer science -and more specifically, the branch of Artificial Intelligence or AI - concerned with giving computers the ability to understand text and spoken words in much the same way human beings can".

Finally, the authors suggest a set of policy measures, in order to establish and maintain a fairer and more detectable mandate with the AI enterprises and higher education institutions.

Which are the advantages of ChatGPT in Higher Education?

According to Wingard (2023), Universities should have a holistic view and thoroughly tweak and adapt their curricula at least every single year. Therefore, this implementation and wise use of AI technologies in higher education will become and appear as a necessity in the near future, in order for Universities to provide their students with competitive degrees for the globalised market. Stalzer (2023) underlines the dominance of the technological titans, such as Google, Microsoft, Apple, and Amazon and their neural networks of course, but most importantly their capabilities for deeper and stronger interconnectivity and interoperability of different types of databases and information.

According to Metzler and ChatGPT (2022), Stalzer (2023), and Stock (2023), who focus on the main advantages of the ChatGPT's applications, students -but also teachers- can write entire essays or articles based on a well-stated prompt, generate new content and do desk research, prepare a press release, compose a story or play, write basic code, create or upgrade basic material for social media, excel or better connect their research questions and translate or summarise texts. Simply put, students could wisely use ChatGPT, in order to save time from mechanistic tasks and devote their energy for more complex scopes and frameworks (Heaven, 2023).

From the student and teacher facing levels-lenses, apart from the previously mentioned capabilities, students can use ChatGPT as a more interactive and faster than "turbocharged" Google search engine, since it rapidly combines information and knowledge (O'Byrne, 2023; Roose, 2022, UNESCO, 2023). Additionally, both students and academics could be benefited by ChatGPT's use via real-time feedback, which is a daunting task especially for academics in classes of 20 or even more students, taking into consideration that everyone is comprehending, learning and consolidating information via different ways. From this point of view a personalised and adjustable learning system could be optimised and supported. Therefore, this could be adopted and applied in higher education institutions in which a high number of students is the main rule and trend. Following Varwandkar's (2023) point in a different contextualisation in India, students could have a digital tutor, who would help them understand difficult conceptualisations and provide them with additional motivations to deal with the academic liabilities.

Both students and academics could also be benefited by "intelligent textbooks", such as "Inquire", an iPad app that monitors students' focus and attention while reading and mainly how do they select to interact with the application, analyse their weaknesses and take measures for their support (O'Byrne,

2023). Simply put, characteristic examples of interactive text could be definitions of keywords for the deeper comprehension of the con-text. Furthermore, a deeper implementation could also be the suggestion of questions for future research and the inclusion of audio-visual content, i.e. videos, photos, podcasts, etc. (O'Byrne, 2023).

Furthermore, according to Gilbard (2023), academics could involve the chatGPT's use for the better organisation and planning of their courses, and in some disciplines and frameworks for their students' evaluation schemata, such as assignments. Students struggling with grammar or spelling in their or other language(s) could be unavoidably benefited and practise their capabilities more systematically (Entrepreneur Staff, 2023).

Are we ready to face the music, i.e. disadvantages, challenges and concerns for ChatGPT in Higher Education?

Despite many enthusiastic views on ChatGPT, it would be considered as an omission to conceal its serious weaknesses. Gilbard (2023) crucially underlines the vacua and loopholes for dishonest behaviour, where students simply copy-paste material generated by ChatGPT and present it as their own. Undoubtedly, this core challenge endangers both honesty and effectiveness in higher education. According to a recent survey in Technews (2023), 51% percent of students consider using AI tools, such as ChatGPT to complete assignments and exams, and this is conceptualised as a form of cheating and misuse. Gilbard (2023) supports that this situation will promote and enhance multiple inequalities, and probably lead to misleading or delusive evaluation of each student's knowledge, comprehension, "interactivity" and accreditation.

Tajik and Tajik (2023) strongly underline that inaccurate information, biased content, plagiarism, and limited or low quality's context are some of the crucial perplexing issues that occur systematically. Its questionable accuracy, which is quasi-scientific, mainly based on the level of prompts' quality, as well as the fact that it is only internet-sourced are a core disadvantage for both students and academics (Lukeš, 2023). More specifically, several times ChatGPT abounds in false or manipulated facts, can misunderstand context, produce bias-prone text, and undermines the plausibility and traceability of the retrieved data (Entrepreneur Staff, 2023).

Simultaneously, the authors highlight that ChatGPT cannot think critically and "understand" the deeper connotations among different frameworks or disciplines. These drawbacks can and should also be analysed from at least a European governmental system-facing level, since the above-mentioned negative impact may have far-reaching malign consequences on all the aspects of students' and academics' perspectives (European Commission, 2021). Apart from these parameters,

ChatGPT's improvident use may strengthen students and academics' dependence on technology and heavy reliance on the tool (Entrepreneur Staff, 2023). If students or even academics and researchers mainly or solely rely on responses generated by AI, their creativity, originality, innovation, spirituality, coherence and problem-solving skills would be decreased (Entrepreneur Staff, 2023; Varwandkar, 2023).

From an academic-facing level, there are many looming challenges, which make some authorities even ban the software totally from use in Universities. For instance, the New York City Department of Education decided to ban ChatGPT's possible (inappropriate) applications (Gilbard, 2023). However, this doesn't seem to solve the problem, as students still use it for this scope. According to Ellen B. Meier, Professor of Computing and Educational Practice (Gilbard, 2023), it would be wiser to redefine AI's contribution to higher education and enrich the academic repository of pedagogical tools. Similar to this point is Lalitha Vasudevan's, Vice Dean for Digital Innovation at Columbia University (Gilbard, 2023), according to which students and academics should become equal partners in deciding how they should use AI tools at the Universities. Moreover, huge compute resources and vast accurate datasets for the training of chatbots are necessary requirements to avoid suspicious techniques and shady LLM models.

Correspondingly, researchers pointed out AI's inclination to generate texts including racist as well as manipulated and deep-fake content, or endangering some of the currently human-pursued occupations through automation (Gilbard, 2023). Additionally, authors excelling Stock's point (Stock, 2023) believe that an undisputable challenge is the need for focusing from the final result to the whole process and the crystal-clear presentation of the sources which have been used or reused for the "education" and better responses of ChatGPT.

For all the aforementioned reasons, the authors strongly support that ChatGPT, as well as other AI tools, ought to be regulated by law. For instance, drafts of regulations on AI can be found by the European Commission regarding the draft EU AI Act (2021) and its Digital Strategy attempts, which have already been taken by the European Union, the United States' or China's Government. However, the European companies sound alarm over the draft AI law, claiming disproportionate compliance costs and liability risks (Espinoza, 2023).

A taste of thought-provoking risks, plausible costs and red flags

Following the main logical backbone, emphasis will be put on the categorisation of risks with the extended and unregulated use of chatGPT in higher education. The authors would like to underline

that if not proper attention is given to consider the challenges and limit the risks, then probably these will "reappear" in the near future as red flags and subsequently as multiple and important costs.

The complexity of the issue, affecting all the signees and signers of the educational contract, does not definitely require system-based actions. Looking at it via system-facing lenses, authorities have started to recognise the need for proper regulation of AI's use and implications, which has already been done by e.g. the EU. In accordance with The European Commission's Regulatory Framework on Artificial Intelligence there are four (4) graded levels of risk in AI, whose identification is of great use for system-created measures:

- **Unacceptable risk** (a clear threat to our safety which entails AI's total ban),
- **High risk** (AI referring to critical infrastructures that could jeopardise citizens' lives),
- **Limited risk** (users should be fully that they interact with an AI machine), and
- **Minimal or no risk** (relating to AI-enabled video games or spam filters) (European Commission, 2021).

As suggested by various researchers (Rainee & Anderson et al., 2017 & Stalzer, 2023) the potential of Open AI's chatbot, still not fully recognised, imposes on its creators the necessity of algorithm transparency, ethics and awareness of its possible societal impacts. The tool ought to be controlled by both AI owners and its consumers. In the same spirit, Assistant Professor Alexandra Mihai fully agrees with the argument of Tajik & Tajik et al. (2023), that in order to fully comprehend the possible AI applications, the first and foremost milestone is for the algorithm literacy to be (deeper) included in basic education[9] (McGraw Hill, 2023). Moreover, Prof. Mihai underlines the necessity of academics and students working together with ChatGPT, in order to shed light on what actually benefits the University and what should be excluded.

From an academic-facing lens, concerns and costs should mainly focus on the reliance of chatGPT in the evaluation of educational or vocational training, which may strongly affect a person's professional

[9] Provocatively, if someone asks ChatGPT about itself and consider a comprehensive examination of the potential application of ChatGPT in Higher Education Institutions, it will refer: "To avoid ChatGPT being used for cheating, there are a few different steps that educators and institutions could take. For example, the right education about the ethical usage of ChatGPT could be provided to students and educators when it comes to academic settings. There's also a need for guideline development and policy making for the use of ChatGPT in academic work, and to make sure that students and educators are aware of and follow these guidelines. Moreover, the use of ChatGPT in academic settings is suggested to be monitored so cheating or other unethical behaviour can be avoided. The use of ChatGPT is going to help support learning and academic achievement, rather than as a replacement for traditional forms of assessment. Incorporate critical thinking and ethical reasoning into the curriculum, to help students develop the skills and habits necessary to use AI technology responsibly" (Tajik & Tajik, 2023).

career (Gilbard, 2023). Another plausible concern and risk is the endangerment of some currently human-pursued occupations, since technology vividly gains ground. A characteristic example is educating programmers, coding IT Specialists and secretaries. Hence, again, authors highlight the European Commission's effort via EU AI Act to lawfully regulate this AI software and all the possible hazards associated with it, in order to support teachers in real terms.

However, a concrete challenge and concern regarding the system and administration is the high level of the main game changers' (such as Microsoft and Google) unpredictability in combination with the low reflex actions of the global, European and the national legislation.

Moving forward to a more administrational level, authors would like to be differentiated in the debate on the topic between the "original" developer and "downstream" developer. The latter may not always be a part of the original model development but can only adjust it and incorporate its outputs into a different software. In consequence, neither of them holds complete control or a comprehensive view into the entire system. Therefore, a crucial concern is that the function of the final AI software could be difficult to be identified and furthermore, may result in its unexpected occurrence of errors (Engler, 2023).

Among others, the European Union via its framework for regulation in AI applications (2021) will hopefully settle clear requirements for AI systems for high-risk applications and determine certain obligations for AI users alongside providers of high-risk AI tools. Furthermore, the EU framework will plausibly put forward a conformity assessment preceding the launch of a particular AI system and propose a governance structure at European and national levels. The proposed framework is aimed at the monitoring of the accuracy and clarity of the information provided by AI software as well as human-generated supervision in order to lessen the possible risks (European Commission, 2021).

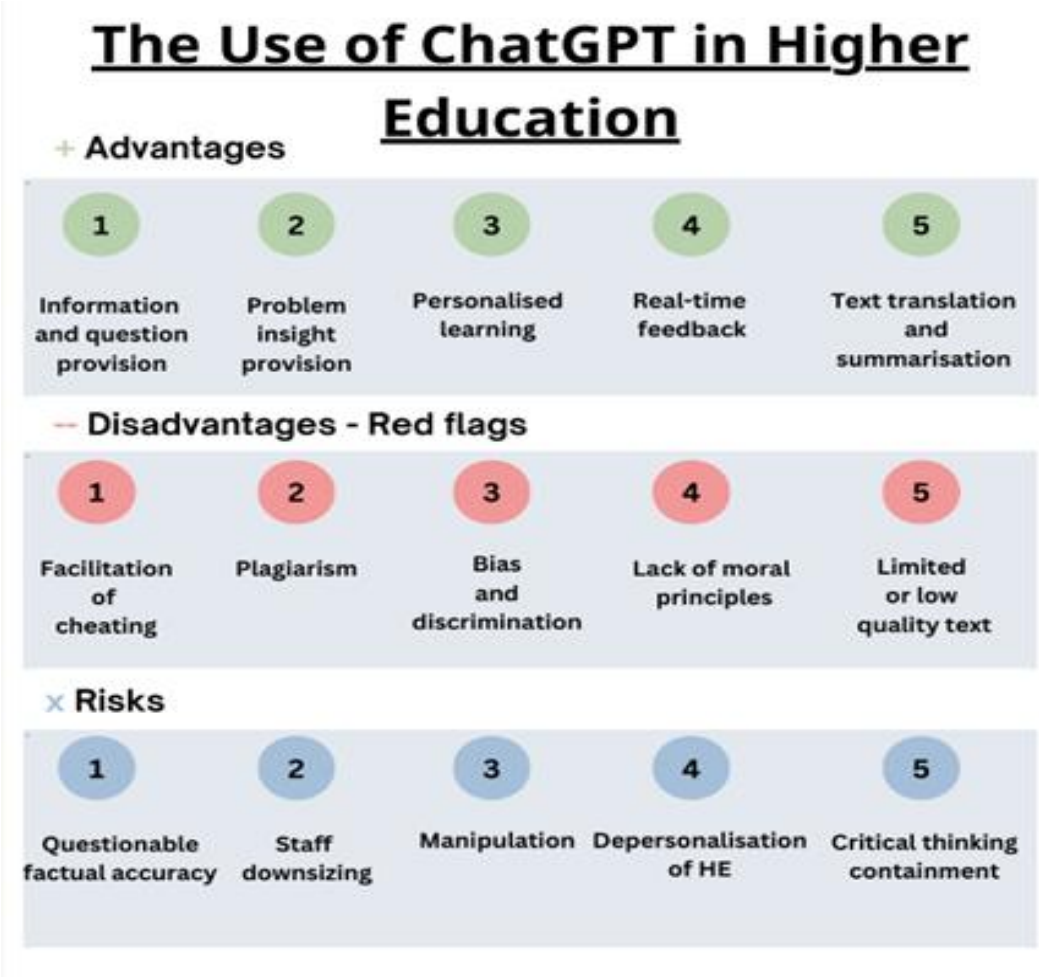
There is a clear red flag that ChatGPT may diminish students' potential and ability of critical thinking due to their heavy dependence on it and lack of creative approach towards its use (Gilbard, 2023). An essential factor in increasing students' self-dependence when creating thoughts, accompanied by AI tools, is teachers. As pointed out by experts, education professionals need to first get themselves familiarised with proper incorporation of the software into teaching, classroom management and the design of lesson planning. Only then they can and may fully use AI tools for the benefits of their learners, thus taking care of students' capability of critical thinking (Gilbard, 2023).

Furthermore, excelling National CyberSecurity Center's argumentation (NCSC, 2023) as serious concerns and red flags could also be conceptualised the coaching of users in harmful behaviours and

tactics, which aim at their manipulation. The ubiquitous character of technology in the framework of higher education for both academics and students, in order to combinedly promote and encourage ChatGPT's safe use, is a difficult challenge for all and a daily and daunting task, which should be prioritised. Then, NCSC underlines that we should not isolate the human factor from ChatGPT, since until now its content is not totally accurate, trustworthy, concrete and regulated.

Another red flag in these LLM models can be coaxed into creating toxic content and AI chatbots are prone to "injection attacks" (NCSC, 2023). Therefore, some undoubted and high risks are the limited data security, continued data breaches, the ethical concerns for the fairness of using AI in modern education, some jobs displacement and staff redundancies, the creation of malware, and the over-dependence of people on technocracy.

Figure 1: Crucial argumentation on the advantages, disadvantages, red flags and risks of ChatGPT in Higher Education ("HE")



Discussion: Is it time to move faster and break things (Zuckerberg) or time to hit pause (Musk)?

Traditional higher education used to be based on tacit trust, understood by reciprocal cooperation between students and academics. The drastic change in the field of education forced by AI technology

affects not only students, but also academics and administrators by saving them useful time through robust systematic procedures. In theory, an AI tool like ChatGPT could be even referred to as a digital personal encyclopedia, helping all parties involved to stay on top of their most important responsibilities through a personalised experience (Tajik & Tajik, 2023).

Due to the high impact of ChatGPT in higher education, it is assumed that the employment of AI tools, as presented by Paulo Blikstein, Associate Professor of Communications, Media and Learning Technologies Design at Columbia University (Gilbard, 2023), may complicate the case and contribute to the creation of some awkward learning settings underlined by suspicion on either side (e.g. due to students' possible cheating). Moreover, in accordance with Elon Musk's mindset, creating a toxic environment, harmful to any user.

Following this argument, there seem to appear various and important question marks of mainly negative aspects concerning the limited knowledge of potential outcomes of newly designed AI models by the designers themselves as well as regarding ethics, literacy, transparency and oversight. As noted by the Hall of Fame member, technologist, founder and CTO of US Ignite, Glenn Ricart, "*The danger is that algorithms appear as "black box", whose authors have already decided upon the balance of positive and negative impacts – or perhaps have not even thought through all the possible negative impacts*" (Rainie & Anderson, 2017). When talking about ethics in this specific subject one can make out two different paths, the ethics of the maker and the morals of the user. Meaning that both parties ought to use this type of technology as indicated by the regulation book of every workspace either in the digital or real world. Both these worlds can possibly co-exist under good conditions if the results are thought regarding the social impact they will have as a basic principle. Therefore, the foundations of learning and teaching assisted by AI should be revised and based on ethical and fully transparent and concrete agreements among the signers and the signees of the education contract.

Aside from ChatGPT's inherent limitations, such as its inability to reason about the physical and social world, temporal reasoning, factual errors, bias and discrimination, transparency, reliability, robustness, security, and plagiarism, it cannot be denied that ChatGPT and other LLM tools, are from another aspect positively revolutionising the infrastructure of higher education, leading to a more efficient and effective education system that benefits all stakeholders involved. Therefore, in relation to Mark Zuckerberg's reasoning, while it is important to acknowledge and address the limitations of ChatGPT and other LLMs tools, their potential for positive impact on education cannot be ignored.

Nevertheless, several tech-companies, including "Open AI" - the company founded by Elon Musk, Sam Altman, Peter Thiel, OpenAI chief scientist Ilya Sutskever, Jessica Livingston, and Linkedin co-founder Reid Hoffman, which originally landed ChatGPT (Marr, 2023), have already presented helpful applications (e.g. GPTZero, Turnitin plagiarism detector[10]). Those have the ability to detect the use of ChatGPT or AI content in general, as they would for plagiarism. Meaning that even at a rapid technological race solutions have now risen deflecting one of the most talked about problems, the cheating factor.

Furthermore, proposed regulations have also emerged from the European Commission's Regulatory Framework on Artificial Intelligence, which result in monitoring of the accuracy and clarity of the information provided by AI software, as well as human-generated supervision, in order to reduce the possible risks (European Commission, 2021). However, in any case, it is critical that all involved parties should be properly informed and also trained in the use of AI tools, in order to gain all the potential benefits in and for higher education. Last, but not least, it seems that every emerging problem is likely to face a different corresponding solution, which may usually require a combination of appropriate retreats or steps forward.

Policy Recommendations

The central aim of this policy brief was to gain a better understanding, blind spots and red flags of ChatGPT, and therefore its level of appropriateness in higher education for the anthropogeography of academics, researchers, students and administration staff via a rigid argumentation and articulation of points. This section offers guidance for policy-makers on how to best leverage the emerging opportunities and highlight the risks, presented by the growing connection between AI and higher education.

According to the "Policymaking in the Pause" and the Future of Life Institute (2023) authors would like to adopt and further ameliorate the main policy agenda, in order to establish and maintain a fairer and more detectable mandate with the AI enterprises, higher education institutions, different communities and the previously alluded anthropogeography. The authors underline the need for transition from the disciplinary silos to inter- and trans-disciplinarity, meaningful dialogue and active cooperation among diverse perspectives.

[10] In particular, Turnitin has been trained specifically on academic writing sourced from a comprehensive database, as opposed to solely publicly available content. Thus, it's able of finding instances of potential dishonesty in student assignments.

In parallel, higher education institutions have a unique responsibility to teach how to distinguish real evidence from fabricated information via sharpening critical and divergent thinking. Therefore, truth seeking skills should be at the core of every curriculum regardless of the scientific field. According to Wingard (2023), higher education institutions should have a holistic view and thoroughly tweak and adapt their curricula at least every single year. Therefore, this implementation and wise use of AI technologies in higher education will become and appear as a necessity in the near future, in order for higher education institutions to provide their students with competitive degrees for the globalised market.

1. Regulate access to computational power.

The involvement of private entities, such as OpenAI in higher education, is not new and calls for care and regulation if selecting AI and other tools that are run by enterprises dependent on making profit may not be open source (and therefore more equitable and available). Therefore, there are loopholes, according to which they may extract data for commercial purposes (Sullivan, Kelly et al., 2023). Investing in properly staffing and resourcing the mechanisms for the governance of AI is a crucial need in our changing world.

2. Mandate robust and systematic third-party auditing and certification.

According to UNESCO (2023), regardless of whether ChatGPT and other forms of AI are already being used in higher education institutions, conducting an AI audit is an important step that will help the monitoring and assessment of the current situation and support institutional planning. It is suggested that this audit is undertaken by the higher education institutions governing bodies following extensive consultation with all academic, research, administrative and IT departments, as well as with students. This triangle process should have: “Understand-Decide-Monitor” intertwined steps.

3. Establish capable AI agencies at a national, european and global level.

Since ChatGPT cannot be described as a flash in the pan and the change is already upon us, authors recommend that national AI agencies should be established in line with a blueprint developed by Anton Korinek at Brookings. Korinek (Future of Life Institute, 2023) proposes that an AI agency has the power to:

- Systematically monitor the public developments in AI progress and define a threshold for which types of advanced AI systems fall under the regulatory oversight of each agency.

- Mandate impact assessments of AI systems on various stakeholders, define specific reporting requirements for advanced AI companies and audit the impact on people's rights at a macro-level.
- Establish enforcement authority to act upon risks identified in impact assessments and to prevent abuse of AI systems.

However, a crucial question that turns out here is who will guard the guardians? (Rainee & Anderson, 2017). The authors highlight this point given that if information is power, then logically information control is supreme power.

4. Expand the technical AI safety research funding.

Exploring the logic of the Future of Life Institute (2023) and to ensure that AI's enterprises and other organisations capacity to control AI systems keeps pace with the growing risk that they pose, authors highly recommend a significant increase in public funding for technical LLM models' safety research in the following research domains:

- ***Alignment:*** development of technical mechanisms for ensuring AI systems learn and perform in accordance with intended expectations, intentions, and values.
- ***Robustness and assurance:*** design features to ensure that AI systems responsible for critical functions can perform reliably in unexpected circumstances, and that their performance can be evaluated by their operators.
- ***Explainability and interpretability:*** develop mechanisms for opaque models to report the internal logic used to produce output or make decisions in understandable ways. More explainable and interpretable AI systems facilitate better evaluations of whether output can be more credible and reliable.

The authors highly recommend increased funding for research techniques, and development of standards, for digital content provenance. Therefore, there should be specific criteria and standards to ensure that a reasonable person will determine whether content published online is of synthetic or natural origin, and whether the content has been digitally modified in a manner that protects the privacy and expressive rights of its creator.

5. Develop high(er) standards for identifying and managing AI-generated content.

Due to this reason, the publication of generalised lessons should be prioritised from the impact assessments. This transparency would also allow academics and researchers to focus on necessities, study trends and propose solutions to common problems. According to Dr. Chris Kubiak, Associate

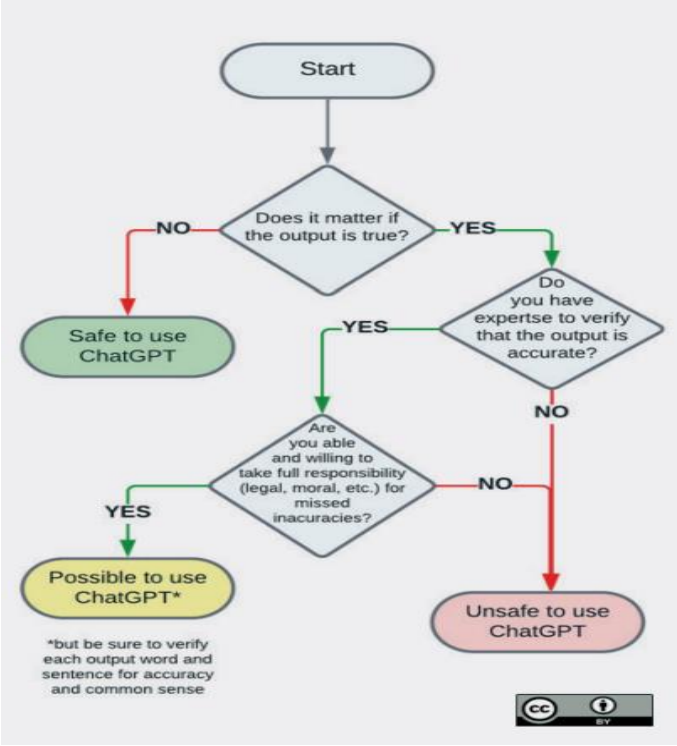
Head of School at the Open University, the update of plagiarism policy would be useful, in order to track and trace which students use chatGPT to fulfil their assignments (McGraw Hill, 2023).

6. Establishment of laws and standards clarifying the fulfillment of "duty of loyalty" and "duty of care" when AI is used in the place of or in assistance to a human fiduciary.

The authors also recommend the expansion of "bot-or-not" laws that require disclosure when a person is interacting with a chatbot. These laws help to prevent users from being deceived or manipulated by AI systems impersonating humans, and facilitate contextualising the source of the information. The draft EU AI Act (2021 and 2023) requires that AI systems be designed such that users are informed they are interacting with an AI system. Almost all of the world's nations, through the adoption of a UNESCO's recommendation on the ethics of AI (2021), have recognised "the right of users to easily identify whether they are interacting with a living being, or with an AI system imitating human characteristics". If all the intertwined designers and technical staff of ChatGPT and similar tools don't probe deeper into its capabilities and explore its limitations, then the recipients of their services will face versions of mis- or disinformation, or even worse the hallucination of biased information.

The following figure can roughly depict in which cases ChatGPT would be a good choice.

Figure 2: When is it safe to use ChatGPT?



Source: A. Tiulkanov (2023).

ChatGPT seems to have the power to transform higher education by all the above mentioned means. The key question -that is yet to be answered- is if this "wind of change" will mainly have a positive, neutral or negative burden and footprint. It is important to note that ChatGPT is not governed by ethical principles and cannot distinguish between right and wrong, true and false. This tool only collects information from the databases and texts it processes on the internet, so it also learns any cognitive bias and inaccuracies found in that information. It is, therefore, crucial to critically analyse the results that ChatGPT provides and compare them with other sources of information.

Since technological development is rapid and followed by emerging threats, in some cases, there is little agreement on a regulatory agenda. Undoubtedly, policies and guidelines are necessary to safeguard AI, ensuring its benefits and trustworthiness while mitigating its risks.

Conclusions and Consensus

It is agreed that the future of our interconnected world is unpredictable, fluid and uncertain. But what can we do, then? Simply put, knowing what future we would like to have, and afterwards creating it. And then of course work and rework on it. For instance, the authors suggest to prevent undue political interference and welcome public consultations closely related to fundamental rights. The authors reach the consensus that only when proactively multiple and solid checks and balances are in place, there can be a more thoughtful, beneficial expansion of generative AI technologies not only in higher education, but also in other fields of a society. Similarly, the authors maintain that powerful AI systems, such as NLP models should be developed only once scientists are confident that their effects will be precise and mainly positive and their risks will be manageable.

Probably, a stepping back from the dangerous race to ever-larger unpredictable "black box" models with emergent capabilities until there is adequate documentation by OpenAI for the internal mechanisms of ChatGPT would be the golden ratio at this phase. However, in the meantime, there is great need for education in algorithm literacy, accountability processes, oversight and transparency and a reassurement that the algorithms' designers should be trained in ethics and required to design code that considers societal impact as it creates efficiencies and inequalities. Indisputably, a strategic foresight mindset and proper education of the academics and students will intercept delusions, deadlocks, certain risks and faits accomplis lurking from the thoughtless development of LLM models.

References

Buchholz, C. (2023). Chart: ChatGPT Sprints to One Million Users. The Wire. Available at: https://thewire.in/tech/chart-chatgpt-sprints-to-one-million-users (Accessed: 15/11/2023).

Channon, M. (2023, March 29). Is Open AI ChatGPT Safe?' Google searches soar 614% as Elon Musk warns of 'profound' AI risk. BelfastLive. Available at: https://www.belfastlive.co.uk/news/uk-world-news/is-open-ai-chatgpt-safe-26590453 (Accessed: 15/11/2023).

Engler, A. (2023, February 21). Early thoughts on regulating generative AI like ChatGPT. Brookings. Available at: https://www.brookings.edu/blog/techtank/2023/02/21/early-thoughts-on-regulating-generative-ai-like-chatgpt/ (Accessed: 15/11/2023).

Entrepreneur Staff. (2023, February 16). How Will ChatGPT Change Education and Teaching? Entrepreneur. Available at: https://www.entrepreneur.com/science-technology/how-will-chatgpt-change-education-and-teaching/445018 (Accessed: 15/11/2023).

Espinoza, J. (2023, June 30). European companies sound alarm over draft AI law. Financial Times. Available at: https://www.ft.com/content/9b72a5f4-a6d8-41aa-95b8-c75f0bc92465 (Accessed: 15/11/2023).

EU AI Act. (2021, April 21). The Artificial Intelligence Act: What is the EU AI Act? Available at: https://artificialintelligenceact.eu/ (Accessed: 15/11/2023).

European Commission. (2023, June 20). Regulatory framework proposal on artificial intelligence. European Commission. Available at: https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai (Accessed: 15/11/2023).

Future of Life Institute. (2023, April 19). What can policymakers do now to combat risks from advanced AI systems? Policymaking in the Pause. OER Commons. Available at: https://futureoflife.org/wp-content/uploads/2023/04/FLI_Policymaking_In_The_Pause.pdf (Accessed: 15/11/2023).

Gilbard, M. (2023, January 31). Navigating the Risks and Rewards of ChatGPT. Teachers College Columbia University. Available at: https://www.tc.columbia.edu/articles/2023/january/navigating-the-risks-and-rewards-of-chatgpt/ (Accessed: 15/11/2023).

Guyatt, C. (2023, March 23). ChatGPT in higher education: Will artificial intelligence help or hinder authentic learning? Teaching for Learning @ McGill University. Available at: https://teachingblog.mcgill.ca/2023/03/23/chat-gpt-in-higher-ed-will-artificial-intelligence-help-or-hinder-authentic-learning/?subscribe=success#subscribe-blog-blog_subscription-2 (Accessed: 15/11/2023).

Heaven, W. D. (2023, April 6). ChatGPT is going to change education, not destroy it. MIT Technology Review. Available at: https://www.technologyreview.com/2023/04/06/1071059/chatgpt-change-not-destroy-education-openai/ (Accessed: 15/11/2023).

Heaven, W. D. (2020, November 18). The way we train AI is fundamentally flawed. MIT Technology Review. Available at: https://www.technologyreview.com/2020/11/18/1012234/training-machine-learning-broken-real-world-heath-nlp-computer-vision/ (Accessed: 15/11/2023).

IBM (2023). What is Natural Language Processing (NLP)? IBM. Available at: https://www.ibm.com/topics/natural-language-processing (Accessed: 15/11/2023).

LLanera, K. et al. (2023, January 31). ChatGPT is just the beginning: Artificial intelligence is ready to transform the world. El Pais. Available at: https://english.elpais.com/science-tech/2023-01-31/chatgpt-is-just-the-beginning-artificial-intelligence-is-ready-to-transform-the-world.html (Accessed: 15/11/2023).

Marr, B. (2023, May 19). A Short History Of ChatGPT: How We Got To Where We Are Today. Forbes. Available at: https://www.forbes.com/sites/bernardmarr/2023/05/19/a-short-history-of-chatgpt-how-we-got-to-where-we-are-today/?sh=21d68fd2674f (Accessed: 15/11/2023).

McGraw Hill (2023, March 30). Revolutionising Higher Education ChatGPT and the Future of Learning [Video]. You Tube. Available at: https://www.youtube.com/watch?v=3EQCY5UMn10 (Accessed: 15/11/2023).

Mehrishi, M. (2023, February 7). The Dangers of ChatGPT: How It Can Put You at Risk. OpenGrowth. Available at: https://www.opengrowth.com/resources/the-dangers-of-chatgpt-how-it-can-put-you-at-risk (Accessed: 15/11/2023).

Metzler, K. and ChatGPT (2022, February 12). How ChatGPT Could Transform Higher Education. Social Science Space. Available at: https://www.socialsciencespace.com/2022/12/how-chatgpt-could-transform-higher-education/ (Accessed: 15/11/2023).

Milmo, D. (2023). ChatGPT reaches 100 million users two months after launch. The Guardian. Available at: https://www.theguardian.com/technology/2023/feb/02/chatgpt-100-million-users-open-ai-fastest-growing-app (Accessed: 15/11/2023).

National Cyber Security Center. (2023, March 14) ChatGPT and large language models: what's the risk? Available at: https://www.ncsc.gov.uk/blog-post/chatgpt-and-large-language-models-whats-the-risk (Accessed: 15/11/2023).

O'Byrne, W. I. (2023, April 18). Can AI improve education? Here are 4 potential use cases. World Economic Forum. Available at: https://www.weforum.org/agenda/2023/04/can-ai-improve-education-here-are-4-potential-use-cases/ (Accessed: 15/11/2023).

Rainee, l & Anderson, J. et al. (2017, February 8). Theme 7: The need grows for algorithmic literacy, transparency and oversight. Pew Research Center. Available at: https://www.pewresearch.org/internet/2017/02/08/theme-7-the-need-grows-for-algorithmic-literacy-transparency-and-oversight/ (Accessed: 15/11/2023).

Roose, K. (2022, December 8). The brilliance and weirdness of ChatGPT. San Francisco Examiner. Available at: https://www.sfexaminer.com/our_sections/forum/the-brilliance-and-weirdness-of-chatgpt/article_9888e9aa-7699-11ed-b6cb-8b678f09bd1e.html (Accessed: 15/11/2023).

Roose, K. (2022, December 5). The Brilliance and Weirdness of ChatGPT. New York Times. Available at: https://www.nytimes.com/2022/12/05/technology/chatgpt-ai-twitter.html (Accessed: 15/11/2023).

Sabzalieva E.& Valentini A.(2023). ChatGPT and Artificial Intelligence in Higher Education. Quick Start Guide. OER Commons. Available at: https://www.iesalc.unesco.org/wp-content/uploads/2023/04/ChatGPT-and-Artificial-Intelligence-in-higher-education-Quick-Start-guide_EN_FINAL.pdf (Accessed: 15/11/2023).

Stalzer, S. (2023). Considerations and potential for ChatGPT in Higher Education. [Video]. McGraw Hill. Available at: https://www.youtube.com/watch?v=DjJZrM4nlJw (Accessed: 15/11/2023).

Stock, L. (2023, January 24). ChatGPT is changing education, AI experts say — but how? Deutsche Welle. Available at: https://www.dw.com/en/chatgpt-is-changing-education-ai-experts-say-but-how/a-64454752 (Accessed: 15/11/2023).

Sullivan, M., Kelly, A. & McLaughlan, P. (2023, March 20). ChatGPT in higher education: Considerations for academic integrity and student learning. *Journal of Applied Learning & Teaching*, 6(1).

Tajik, E. & Tajik, F. T. (2023, April 12). A comprehensive Examination of the potential application of Chat GPT in Higher Education Institutions. OER Commons. Available at: https://www.techrxiv.org/articles/preprint/A_comprehensive_Examination_of_the_potential_application_of_Chat_GPT_in_Higher_Education_Institutions/22589497 (Accessed: 15/11/2023).

Tech Business News. (2023, July 7). ChatGPT May Lead to The Downfall Of Education and Critical Thinking. Available at: https://www.techbusinessnews.com.au/blog/chatgpt-may-lead-to-the-downfall-of-eduction-and-critical-thinking/#potential-negatives-of-using-chat-gpt-in-education (Accessed: 15/11/2023).

Tiulkanov, A. (2023, January 19). Is it safe to use ChatGPT for your task? [Image attached] [Post] LinkedIn. Available at: https://www.linkedin.com/posts/tyulkanov_a-simple-algorithm-to-decide-whether-to-use-activity-7021766139605078016-x8Q9/ (Accessed: 15/11/2023).

UNESCO (2021, November 9-24). Recommendation on the Ethics of Artificial Intelligence. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000380455 (Accessed: 15/11/2023).

University of Cambridge. (n.d.). ChatGPT: (we need to talk). Available at: https://news.educ.cam.ac.uk/230403-chat-gpt-education (Accessed: 15/11/2023).

Varwandkar, A. (2023, February 10). Is ChatGPT the end of thinking skills? The Times of India. Available at: https://timesofindia.indiatimes.com/blogs/the-next-step/is-chat-gpt-the-end-of-thinking-skills/ (Accessed: 15/11/2023).

Wingard, J. (2023, January 10). ChatGPT: A Threat to Higher Education? Forbes. Available at: https://www.forbes.com/sites/jasonwingard/2023/01/10/chatgpt-a-threat-to-higher-education/ (Accessed: 15/11/2023).