Artificial Intelligence

Universität Potsdam

POSITION PAPER

AI IN UNIVERSITY TEACHING

at the University of Potsdam

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1 INTRODUCTION

AI in University Teaching at the University of Potsdam

The University of Potsdam considers it an important task to make teaching staff and students aware of the advantages and disadvantages of new technologies, as these will play a key role in future processes. It is only through active discussion of the opportunities and risks for research, teaching, and transfer, as well as through exchanges between institutions of higher education at research and management level that a results-oriented debate can be ensured.

In addition to looking beneath the technological surface, a panel of experts from the University of Potsdam will also address the question of possible manifestations of so-called „artificial intelligence“ (AI) in digital teaching scenarios. This is also a component of the *Competence Centers for Digital and Digitally Supported Teaching in Schools and Continuing Education* coordinated at the University of Potsdam.

2 GENERATIVE AI-TOOLS

2.1 Legislative Requirements

Institutions of higher education operate based on legal requirements. Especially with regard to the use of digital tools in university teaching, data protection rules are often interpreted in various ways, so that the use of a tool (with and without AI support) can either be approved or prohibited at different universities.

The University of Potsdam implements the applicable legal situation (e.g. data protection, authorship, examination law). Beyond that, there is currently no common set of rules between Brandenburg's institutions of higher education, although the higher education didactics centers are in close contact with each other in order to share their experience and knowledge. Regulations for AI tools – especially for generative AI and chat bots (such as ChatGPT) – at universities should not be limited to Brandenburg, but should definitely have a nationwide or Europe-wide reach.

In principle, the University of Potsdam also supports the use of generative AI in teaching in order to ensure that students can reflect on how to use it for their future professional activities. For example, in the case of commercial AI tools, using them can only be based on a private decision for now. This means that students and teaching staff cannot be obliged or asked to use them unless technical and organizational measures are taken to ensure that their personal data cannot be processed when using OpenAI. That is why the University of Potsdam launched a pilot operation with its own technical solution called GPT.UP, which is secure for teaching and learning settings in terms of data protection regulations and can therefore be used for these purposes. In any case, please note that requests sent to GPT.UP or any other commercial AI tool must not contain any personal data or other confidential information from the University of Potsdam (especially company and business secrets).

2.2 ... in Teaching

AI tools are already an important subject of learning in some fields and are included in the teaching curriculum. Students learn about different perspectives on AI functionalities and applications, with differing importance being attributed to it in the fields of computer science, linguistics, mathematics, natural sciences, or teacher training. We expressly encourage students, teaching staff, and researchers to try out, understand, and use AI tools in order to develop relevant future skills, but also to familiarize themselves with and discover their limits.

The resulting learning opportunities for students can have a positive influence on their engagement with a topic and thus on the quality of learning, e.g. by critically

comparing their own results with the AI-generated suggestions or by making simple tasks easier to free up space for further ideas.

2.3 Challenges

As an academic institution, the University of Potsdam is committed to complying with the rules of good academic conduct. In this regard, the use of AI tools must be discussed taking various aspects into account, e.g. with regard to authorship, new research methods, or ethical requirements and consequences.

The educational goals of higher education need to be discussed in more detail. Students should be able to participate in society in a competent and productive manner. This will require skills that AI tools can help them learn. However, skills that will only come into being alongside the tools will also have to be acquired. This is true for the application in higher education as well as in school education, which is why teacher training (at universities) will also need to play its part. Knowledge about AI and the skills to use the relevant tools must be taught at schools, not least in order to counteract a potentially growing heterogeneity between application experts and laypersons.

The effects of AI tools for teaching and especially for examination settings are currently on the agenda. The existing regulations on attempts of deception continue to apply in these cases. In their declaration of originality, students guarantee that they completed their work without using any unauthorized resources. It is the responsibility of teaching staff to clarify, which resources are or are not allowed. In addition, the University of Potsdam offers support for higher education teaching with regard to learning about AI and with AI, as well as on examinations and grading in the AI era.[1]

In this respect, the legal opinion "Didactic and legal perspectives on AI-supported writing in higher education" ("Didaktische und rechtliche Perspektiven auf KI-gestütztes Schreiben in der Hochschulbildung")[2], published by Ruhr University Bochum under the aegis of Peter Salden and Jonas Leschke, can also be considered a roadmap.

One didactic response is to increase the use of competence-oriented examinations,

1 https://www.uni-potsdam.de/en/e-assessment/e-assessment/ki-in-der-hochschullehre
2 https://doi.org/10.13154/294-9734

which focus on the competences acquired in the specific module. Moving away from the product and towards the process of this competence development, other forms of examination than term papers and written exams come to the fore. The pandemic has already posed a challenge in this regard, as ghostwriting could not always be ruled out in online exams. One solution that emerged were open-book exams, which allowed the student to use additional resources and therefore had to include new types of exam questions.

As places of scholarship and research, universities remain committed to the search for the truth. It remains to be seen how we can dispel fears based on the assumption that programs such as ChatGPT encourage a more relaxed approach to the truth („looks good, must be true"). The university must be a critical voice to support society on this path and therefore integrate AI tools and knowledge of their functions and limitations into teaching.

3 GENERATIVE AI – OPPORTUNITY OR RISK?

Extreme situations frequently trigger dynamic developments that lead to new insights and courses of action. This has also been the case since generative AI and chat bots such as ChatGPT have become widely available, which is why these technologies should be seen as an opportunity to face future challenges. At the same time, it must also be emphasized, however, that universities must approach the topic with caution and examine the risks. In the context of generative AI, this concerns, among other things, our ability to determine whether performance in examinations and coursework can be allocated to the student in question.

Unfortunately, attempts at deception with cheat sheets, ghostwriters and the like have been a problem for a long time and AI does not diminish the temptation. At the University of Potsdam, however, these new technologies are not pilloried, but attempts are made to integrate them into teaching in such a way that students can learn how to use them in a sensible manner. When Google and Wikipedia were created, they were also initially dismissed as inferior. Today, most university graduates are able to use such offers with a critical eye, partly because they were made aware of them during their studies. People have also stopped complaining about the fact that Word checks spelling and the "Duden" is therefore used less frequently.
One major difference, however, is that the spell checker can be considered a largely reliable source of information. Students (as well as the general public) must be made aware of the fact that programs such as ChatGPT can only (re)produce something that looks like an eloquent answer to a question, but can often be subtly or less subtly off the mark in terms of content. As this may seem like enough, especially with a deadline looming, a university should nevertheless continue to insist on correct answers and not just well-formulated attempts at answers. After all, the focus must be on understanding the content and on the in-depth analysis of the problem by the people working on it. Recitation classes at university include assignments or exercises for a reason: You will only learn if you complete them yourself.

To summarize: Generative AI, with all its advantages and disadvantages, should also be included in or at least not banished from the teaching portfolio. Despite all the inherent problems, this development should be seen as an opportunity rather than a risk.