

Conclusion of the report on the DiLiUn sub-project

Automatic Text Production (ATP)

Focus: Best practice & unanswered questions

Conclusion and outlook

In the summer and autumn of 2023, Bern University of Applied Sciences (BFH), the University of Neuchâtel (UniNE), Zurich University of Teacher Education (PHZH) and Zurich University of Applied Sciences (ZHAW) carried out 18 focus-group interviews with a total of 66 participants. The interviews centred on the overarching issue of how to deal with the emergence of generative AI (GenAI) in university teaching. In the evaluation, we specifically focussed on the aspects of best practices and unanswered questions.

In particular, the aspects addressed in and later coded as 'Unanswered questions' make it clear that the changes in university teaching brought about by GenAI are far-reaching. At the micro level (teaching), this primarily concerns the individual approach of lecturers to the new technologies, at the meso level (university) the institutional adjustments in teaching and the orientation of examinations, and at the macro level (society) the social and economic impact of AI technology.

While we specifically asked lecturers for practical examples and raised unanswered questions with all university staff during the focus-group interviews, the uncertainty of lecturers in dealing with GenAI was repeatedly mentioned in both areas. Although the aspect of uncertainty was to be expected in the area of unanswered questions, it was surprising to hear similar statements in the area of positive examples of lecturers using GenAI in their teaching. The following therefore not only summarises the opportunities and challenges of GenAI in university teaching but also provides recommendations for action for universities in order to not only share practical examples, but also to address these uncertainties.

Opportunities and challenges

Overall, this study on the use of GenAI, with ChatGPT as a specific tool, in university teaching shows a differentiated picture that reflects both opportunities and challenges. The results from the quantitative analyses, the best practice examples and the unanswered questions provide important insights for successful integration in the education sector.

1. High willingness to integrate into teaching and need for guidelines

The willingness to integrate GenAI into teaching is high despite the many concerns and unanswered questions. Lecturers are increasingly recognising the potential of AI tools to enhance teaching and learning processes. There is widespread use, particularly in text generation and revision as well as the creation of summaries.

At the same time, ethical guidelines and clear instructions for the use of GenAI in university teaching are required.

2. Need for training and skills development among lecturers

A key issue is the great need for training and continuing professional development. Many lecturers state that they are still using GenAI experimentally and feel unsure about how to use it. In particular, targeted training in prompting and the use of various AI tools is needed. Ultimately, students also benefit from the training provided to lecturers. Up-to-date continuing education programmes enable lecturers to specifically address the advantages and problems of AI tools, thus enabling students to use the technology in a more reflective way and encouraging them to think critically.

3. Application-orientated teaching methods

The integration of GenAI into practice-orientated tasks offers great potential. Lecturers also use GenAI to create realistic exercises and examination tasks that promote students' problem-solving skills. To this end, new assessment methods must also be developed,

which will encourage the development of innovative teaching formats with a practical focus on future areas and forms of work.

4. Developing students' critical reflection skills

In the focus-group interviews, the role of the students in the writing process was emphasised: texts should not only be created with the support of AI, but the results should also be critically questioned and the use of the tools reflected upon. In the long term, this approach could promote the development of a responsible and reflective attitude towards technological tools in general. In this aspect in particular, it is important to start from a positive student image in order to prevent the broad discussion surrounding GenAI from turning into a negative narrative about a loss of skills and attempts at cheating.

To summarise, it can be said that GenAI has great potential for the future of higher education, both in terms of innovative teaching methods and the development of new skills. However, the current concerns and unanswered questions should be taken seriously, particularly with regard to ethical, legal and social aspects.

Recommendations for action

A series of recommendations for action for universities can be derived from the results presented, encompassing both the immediate integration of GenAI into teaching and long-term strategic considerations.

1. Development of clear guidelines and standards for the use of AI in teaching

- **Aim:** Ensuring responsible and transparent use of AI tools and avoiding misuse, for example in examinations or academic work.
- **Recommendation:** Educational institutions should develop clear institutional guidelines and standards for the use of GenAI that take ethical, legal and academic criteria into account. These should cover use by both lecturers and students and thus use at an individual level - in order to establish disciplinary professionalism - as well as at an institutional level.

2. Supporting training and skills development for lecturers

- **Aim:** Lecturers should understand how AI tools work and be able to integrate them responsibly into their teaching.
- **Recommendation:** To reduce uncertainties in dealing with GenAI and to exploit the potential of these technologies, lecturers' **methodological skills** should be specifically developed. This should include both (continuous) technical and teaching training, as well as exchanges between lecturers.

3. Integration of GenAI into practice-orientated teaching and learning formats

- **Aim:** Students should learn to use AI as a support in complex, realistic tasks and to independently reflect on and scrutinise the results of AI.
- **Recommendation:** Lecturers should develop application-orientated tasks that integrate the use of AI as a tool and encourage students to actively engage with the technology. The focus should be on the application of AI in real-life scenarios to foster problem-solving skills and critical thinking.

4. Adaptation of examination formats and fostering of critical thinking

- **Aim:** To ensure that students continue to develop the necessary technical and interdisciplinary skills - including in dealing with AI ('AI literacy'). At the same time, students should be enabled not only to use AI as a tool, but also to critically scrutinise the results and improve them on their own. This will foster a responsible and reflective approach to AI technologies.
- **Recommendation:** Higher education should adapt examination formats and competency models to the opportunities and challenges of GenAI. In particular, the importance of written assignments should be reviewed. It is also necessary to **develop new examination formats** that promote a critical approach to AI and at the same time ensure that students think and act independently and autonomously.

In the teaching/learning process, the use of AI should not only serve as a technical tool, but also as an opportunity for an in-depth examination of the **social and ethical implications** of the technology. It is particularly important that students reflect on the content generated by AI, e.g. through **feedback processes**, and evaluate and improve its quality.

The focus-group interviews revealed that lecturers assume that GenAI will be so comprehensively established in everyday life that this will require a comprehensive reform of study content and forms. Of specific interest regarding the teaching of skills are answers to the following questions:

- Which skills need to be newly or increasingly taught?
- Which skills no longer need to be taught?
- How does the teaching of skills need to change?

These recommendations for action offer an approach for taking advantage of the opportunities offered by GenAI in teaching while at the same time taking into account the associated challenges. The aim of the recommendations for action is the long-term, responsible integration of AI into educational processes.

Necessary steps in research

From a methodological perspective, the focus-group interviews show that there is currently still a lack of a coherent research approach that comprehensively analyses the impact of the use of ChatGPT and similar technologies on society, higher education in general and writing specifically. A dialogue between research, practice and politics is necessary to ensure the responsible use of this technology.

In addition to these specific recommendations for universities, further recommendations for action can also be derived for the academic and societal approach to GenAI. Based on our analyses, we recommend the following steps:

- A. Integration of the discourse on GenAI into the **more general and older discourse on digital transformation**: Which results are transferable to GenAI? Which specific issues come to the fore because of GenAI?

- B. **Transdisciplinary research** on the societal impact that lays the foundations for a better understanding from the perspective that we are in a learning process as a society - and not from the perspective of quick regulatory reactions or unquestioning faith in technology.