

The use of AI (writing) tools in the context of a (doctoral) thesis

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structure of presentation

- Key legal principles relating to (doctoral) theses
- Permission and prohibition of AI writing tools as aids; attempts at deception



Key legal principles relating to (doctoral) theses

defined legal / academic
requirements, rights and
obligations within the
supervisory relationship



Defined academic/legal requirements regarding doctoral theses

- Various regulations and rules govern the content and the circumstances under which (doctoral) theses are written
- Examination regulations, good scientific practice, copyright legislation, Data Protection
- AI-Software can / could have impact on each area of law
- Two examples to be pointed out specifically

Defined academic requirements regarding doctoral theses

§ 10 par. 1 General Regulation of Doctoral Studies (GRDS) Uni Bi:

“This doctoral exam comprises an independent and methodologically flawless academic paper written in an appropriate presentation, through which the doctoral student makes their own contribution to research, which expands the boundaries of knowledge and stands up to peer review (doctoral thesis).”

Defined academic requirements regarding doctoral theses

§ 1 par. 1 Guidelines good scientific practice Uni Bi:

“Researchers working at Bielefeld University must observe the standards of good academic practice. They are obligated:

- to work lege artis,*
- to maintain strict honesty regarding their own and third parties' contributions,*
- to consistently question all results themselves (...)”*

Ever since: supervisory relationship as a starting point

- (legal) details concerning methodology and writing can be clarified within the framework of the “supervisory relationship” between the doctoral student and their supervisor
- Supervisory relationship starting with acceptance as doctoral student
- Mutual rights and obligations



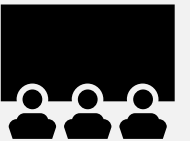
Appropriate qualifications (§ 7 par. 1 GRDS)

supervision, support § 7 par. 2 GRDS

comprehensive and impartial assessment (§ 10 par. 6 ff. GRDS)

Independent and academically flawless paper, see above

Immediate report of problems/obstacles



Settlement by supervision agreement

- § 7 par. 2 GRDS obligatory supervision agreement
- Selected examples of subjects:
 - the topic of the doctoral thesis (working title, if applicable)
 - the type of dissertation: Monograph or cumulative/publication-based dissertation
 - a provisional schedule and work plan indicating the expected duration of the doctorate, to be reviewed and, if necessary, adjusted in the course of the doctoral procedure within the scope of the supervisory relationship
 - the tasks and obligations of the doctoral student (regular reporting obligations and submission of partial results, participation in events, if applicable)
 - the tasks and obligations of the supervisor(s) (regular professional counselling, career development/perspective discussions, quality assurance),

in particular: selection of permitted aids

- Aids can be used to exclude those skills of the candidates that are of negligible importance in the context of the specific doctoral thesis
- Some examples for typical aids regarding dissertations:

Statistics- / Text-
Data Mining
Software

proofreading

Support from lab- /
technical staff

But how is it decided whether AI writing tools are also permitted for use in a doctoral thesis?

Agreement on the use of AI software

- To be determined (possibly by interpretation) in accordance with the regulations whether the objectives of a doctoral thesis can also be achieved with the aid of or by using AI writing tools, taking into account
 - the proposed topic
 - the supervision agreement
 - Professional standards

Agreement on the use of AI software

- the same balancing test as in the case of conventional aids
- Also in the case of 'well-known' aids, an 'independent contribution to research' has to be performed
- Supervisor as experienced researcher in the field and responsible examiner should evaluate AI-usage

Agreement on the use of AI software

- The supervisor and the doctoral candidate should consult with one another as early as possible and, where necessary, on an ongoing basis
- It can then be clarified in a binding and specific manner which uses of AI tools do not compromise the quality of one's 'own academic contribution', and at what point the use of AI tools becomes unacceptable

Declaration of authorship

- Should be summary of ongoing referral, „nothing new“
- Supervision agreement as source for declarations
- Example to be individualised can shortly be found here:

<https://www.uni-bielefeld.de/themen/pruefungsrecht/chatgpt/>

Permission and prohibition of AI writing tools as aids; attempts at deception

Limitations and possibilities regarding the assessment of doctoral candidates' individual competences, GSP-issues



Is the unrestricted use of AI tools even legally conceivable?

- The current version of the GRDS and the faculties' regulations do not (yet) specifically address AI writing tools
- the phrase 'independent production' indicates that the core academic work carried out by doctoral students must not be undertaken by other people or by other software products or AI systems
- (indirect) support tasks carried out by AI tools are an option

AI-Software as support tool

- “independent contribution to science” COULD also be produced with the aid of AI, e.g. AI as a discussion partner, support with source searches, familiarisation with a new field of research
- fine line between AI-support and the impermissible use of AI tools

Example: Working on wording

- clear that AI text tools can summarise concisely, improve the style or even suggest alternative phrasing
- But ability to express one's own arguments through textual organisation and description is likely to be one of the core competencies required of a (doctoral) thesis (depending on field of science)
- Quite possible that new standards of evaluating doctoral theses will be developed within the next years

The exclusion of AI-software as tools: opportunities and challenges

- Analogy to former “analogue” aids
- the use of AI-software can also (albeit rather theoretically) be completely ruled out or subject to sanctions
- a complete ban on all stages of the work is likely to become increasingly unfeasible.

GSP-compliant conduct when using AI tools

- Familiarity with the guidelines and rules of procedure for ensuring good scientific practice at Bielefeld university (English version)
- Attendance at relevant training courses (e.g. GrACe /PEP offers workshops)
- Full transparency = listing all resources and tools in the declaration of authorship
- “human author” remains fully responsible
- Ensuring the traceability of the (doctoral) thesis’s creation by documenting the prompts (in order to be able to counter any allegations of cheating)

Consequences of the unauthorised use of AI software in the writing of doctoral theses

§ 15 GRDS

(1) After having heard the doctoral student, the competent body in accordance with § 4 can declare the doctoral exam results void if it is established before the conferral of the doctorate that the doctoral student has committed academic fraud in their doctoral exam results or that any essential requirements of the doctoral procedure have been misrepresented.

(2) The doctoral degree can be withdrawn if a) it is found out subsequently that (...)

General outlook: possible developments and adjustments

- (Examination) law has often produced solutions that have evolved as a result of technical innovations; however, there may be some disruptions during the transition period
- AI software as a topic of doctoral theses itself can open up new interesting fields for candidates
- The complete exclusion of AI software from doctoral theses does not currently appear to be a sustainable response to the challenges posed by examination law

Thank you very much for your attendance!

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A more general summary of today's contents has been published here:

[AI-writing tools in examinations - Universität Bielefeld \(uni-bielefeld.de\)](#)