

2024 European Quality Assurance Forum

Enhancing education, research and societal engagement through quality assurance

Hosted by University of Twente, Netherlands
14-16 November 2024

ISSN: 1375-3797

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Short bio:

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He is vice-dean and member of the Education Quality Board and the Programme Committee. He serves in programme audits and accreditation panels in Flanders and abroad. He has an interest in Quality Assurance in higher education, internationalisation in higher education and management of higher education institutions.

He is member of an administrative court for disputes on study progress in higher and chairs an advisory body on the rights to enrol in primary and secondary education.

For a decade, he managed the bachelor and master programmes in business administration and nowadays he chairs the Examination Boards. His research interest covers especially consumer insolvency, conflict of laws and education law.

Paper

Title: Generative AI and writing assignments: Long live the master's dissertation. Let's bury it.

Abstract

The importance of GenAI in higher education can't be ignored. It influences learning processes vastly. Students and faculty use its rapidly growing features for demanding tasks. Study programmes have to answer societal needs. They have to take GenAI into account and adequately adapt to it. GenAI changes the world students have to be prepared for.

The paper raises the question whether and how GenAI forces study programmes to revisit their learning objectives.

Since GenAI strongly supports the process of drafting texts, the importance of writing skills as learning objectives can dramatically change.

The paper assesses whether writing remain pertinent learning activities and if so, how new challenges to evaluate students' writing skills in a sound way may be addressed sustainably.

Dealing with the question whether GenAI should be banned or embraced, the paper - against the background of Ghent University's recent policy-shift regarding the use of GenAI - highlights solutions to meaningfully integrate GenAI in writing assignments. Advantages, contextual requirements and possible backdrops are pointed out.

Special attention is given to the question whether the master's dissertation can remain the cornerstone of the integrated acquisition of academic skills at master level, and the evaluation of those competences.

Since the academic community is globally convinced of the value of the master's dissertation as a lever for competences that characterize an academic study programme, the paper celebrates it, while at the same time suggesting to bury it in its current form as due to GenAI it is probably not fit for purpose anymore.

Introduction

1. GenAI will impact how we teach and study. It is part of our world and so is higher education.

Thus, a confrontation between GenAI and higher education is inevitable. This confrontation is at its sharpest in writing assignments and, in particular, the master's dissertation. It is undeniably the final ascent in the academic training, but aren't we forced to bury the master's dissertation?

Are the objectives it seeks to obtain still relevant and, if so, can we still test whether students achieved them when writing the dissertation?

2. This paper thus formulates some broader questions GenAI may bring for Quality Assurance in Higher Education. A crucial question is whether GenAI will usher in the breakdown of our study programmes.

Inspired by the position switch of Ghent University at the start of academic year 2024-2025, regarding the use of GenAI by students, especially when preparing a master's dissertation, the paper fuels the debate on challenges and opportunities of GenAI for study programmes.

Impact of GenAI on competencies

3. GenAI functions pattern-based when creating new content¹.

It is important to be aware of the power and limitations of GenAI, rapidly growing on the one hand and steadily reducing on the other hand. For students Generative Pretrained Transformers, they can 'chat' with, are attractive Large Language Models.

4. Against this background, two main questions have to be answered.

- (a) Could the use of GenAI in higher education jeopardize crucial competencies and if so, how can HEIs deal with this risk.
- (b) Taking the growing role of GenAI in higher education and question A into account, how can competencies that are embedded in the master's dissertation be assured or adapted to the changed societal demand ?

5. To address the question how GenAI can influence crucial competencies, the comparison of using GenAI with using a GPS, a sociologist of Antwerp University referred to, is eye-opening.

When students make use of artificial intelligence, for instance when writing a master dissertation, they opt for the best approach. It is their GPS. To be effective and efficient students realize that technology is there – to stay. It's up to them to learn to use it in a productive way.

¹ Comp.: Slideshow "De masterproef en andere schrijftaken in 2024-2025: de impact van generatieve AI", Directorate Educational Affairs, Ghent University.
See as well: VERFAILLIE, B., LEURIDAN, M., 'Generative AI en de impact op het onderwijs', Ghent University – Faculty of Economics and Business Administration, 2024.

6. When assessing the reliability of a GPS a driver checks whether the navigation tool instructed him to the destination he got in mind. This check does not map reading skills.

Conversely, if a student asks an AI-tool to summarize texts, in order to make a literature review, he will have to be able to make a summary himself to assess the quality of the output artificial intelligence generated².

7. From this perspective, fundamental academic competencies remain highly relevant. Moreover, it is justifiable to expect study programmes to create awareness with students and lecturers on the opportunities and pitfalls of the use of GenAI.
8. Students have to deal with GenAI as a tool that extends their competencies. Therefore, GenAI must be smartly integrated in the learning process.

This of course requires students to master the basic skills and competencies that characterize an academic training and make independently good use of them.

9. Regarding drafting skills, the use of GenAI has to be approached as a tool that catalyzes a student's writing skills. Up till now, these skills are characterized as a crucial aspect of a master's dissertation. Students must be able to report in full transparency on a research question and communicate accurately and accessibly the results they obtained and their methodology.

Rather than to evaluate drafting skills (comp. programming skills) it will be growingly important to assess a student's ability to use consciously all available technological support to come to a thoughtful and balanced end result.

The skills will help them to assess GenAI more effectively and make better combine use of its output.

10. Last but not least, writing invites/requires to think. It is a framework for logical reasoning.

It helps defining and combining concepts, is a vehicle for abstract thinking, stimulates creativity, forces to communicate about a reflective process etc. From this perspective, training students in writing independently is an essential element of the academic profile of a study programme.

Embrace technology & forget knowledge?

11. The aforementioned ideas invite to question study programmes. Programme committees will have to look ahead, trying to conceive the overwhelming impact of GenAI on the skills the future society will require from their graduates. A thorough reflection on each of the components of a study programme must determine whether it is still worthwhile to invest in 'expertise'.

Therefore, programme committees/programme managers must address the role of the study programmes and their graduates in a technologically molting society.

As a total ban on the use of Generative AI seems not to make sense in higher education, it is inevitable to assess a 'traditional' approach to learning objectives makes sense.

12. In order to make responsible use of GenAI students need insight in GenAI and its most relevant applications. They must also master the competencies required to fulfil 'outsourced' tasks.

Lecturers and study programme management therefore have to consider to integrate the use of GenAI in their lecture halls. When study programmes question the relevance of 'traditional'

² VANRIE, W., 'Chat GPT is geen GPS', De Standaard, 07/05/2024.

learning objectives in an AI-universe, they will encounter dilemma's.

13. One may wonder however, whether it must be undisputed that 'knowledge' is greatly irrelevant, due to the strength of GenAI.

Basic knowledge reduces the risk of complete dependency of AI-systems. Insight in a domain of expertise – its concepts, theories and rules,.. – require a minimum of knowledge-related building bricks.

14. Domain specific knowledge will contribute to AI-literacy. Thanks to this knowledge it will be easier to understand the process of knowledge generation and thus give better comprehension of where generated content comes from and is based in.

Forget about generic competencies ?

15. Another uneasy question is whether generic skills and competencies will have a reduced relevance in the future.

Summarizing, analyzing, drafting, problem solving...all these tasks can be greatly supported by AI.

It is unclear though whether artificial intelligence will AI fully replace the need for these competencies or rather be a catalyst, amplifying these human skills and competencies.

16. Probably, the abilities of artificial intelligence in research methods or its creative power will grow at an incredible pace.

This does not necessarily signify that it is no longer important that students still master these abilities...to dialogue with GenAI, to assess the AI-generated materials, to independently take surprising approaches in using generic skills and competencies.

17. Lastly, generic skills and competencies help students to approach problems on an abstract, conceptual level.

The future of assessing writing

18. Focusing on writing skills, HEIs have to be aware – against the background of constructive alignment - of how GenAI can influence the contribution of 'tasks' to the development of 'writing skills' as well as their evaluation.

If writing is an important lever to skills in conceptualization, abstract thinking and proper logical reasoning...does this mean that the use of Generative AI is detrimental to the learning objectives and an imminent risk for the validity of nowadays common assessment approaches.

19. If so, the inevitable discussion for policy makes in higher education is whether a ban on the use of GenAI is inevitable. A total ban on the use of AI is probably neither desirable nor realistic.

GenAI is quite deeply embedded in all common AI-tools and a total ban would deprive students from broadly accepted IT-applications. A ban is not in line with reality. Students use and will continue to use GenAI, that sustains all relevant aspects of writing an assignment.

20. Against this background and in line with the considerations above this paper elucidates a possible approach, presenting the Ghent University guidelines that are in force from the academic year 2024-2025.

Central in the University policy regarding ,Generative AI' is supporting *responsible* use.

The strategy is twofold³:

- For the master's dissertation, the University explicitly opts to allow the responsible use of GenAI-tools.
- For other (written) assignments, the University encourages the responsible use of these tools. A ban on the use of GenAI-tools is possible, but only if this is feasible and necessary for the assessment of the aimed learning outcomes

21. The Education and Examination Code, regulates the use of GenAI in the context of 'fraud or irregularities' in its article 78⁴.

According to §1 any act committed by a student in the context of a course unit - whether intentional or not - will be considered as an irregularity or a form of fraud if it endangers the objective assessment of the intended learning outcomes.

Specifically regarding GenAI though, Ghent University supports the responsible and ethical use of it.

22. However, the use of such systems (or other (digital) tools) can be considered to be a form of fraud or an irregularity if this has previously been prohibited for (a part of) the assessment of a specific course unit, and communicated as such. The latter allows to 'prepare' students to the use of GenAI, training core competences in a GenAI-free setting, and gradually integrating the use of GenAI in the curriculum.

23. Notwithstanding the admission of GenAI-tools, committing plagiarism is, as previously, considered to be a form of fraud.

Building awareness

24. When allowing, or even ,inviting' students to use GenAI, it is an opportunity and a necessity to make them aware of (the ethical) dilemma's and risks that come with the use of GenAI, as well as to learn students to deal with those risks in a correct manner.

25. Privacy violations constitute a major risk when ,prompting' personal data. Sharing these, often sensitive, data can be a breach of law as well as raise ethical concerns⁵.

26. A second concern is the reliability of the information that is generated by AI-systems. Students must be aware of the risk of biased information and disinformation.

Therefore, one could argue that investing in skills and knowledge to test the output of GenAI against certified sources, is one of the major duties for HEIs. They have to act as a beacon for trustworthy information and learn students how to deal with information.

Moreover, the AI-tool's answer to a prompted question is only as representative as are the sources it relies on.

³ Ghent University, 'Generative AI in Ghent University Education: Impact and Approach' (Ghent University, Education Tips, latest update 11/09/2024, <https://onderwijstips.ugent.be/en/tips/chatgpt-eeen-generatief-ai-systeem-met-impact-op-he/>)

⁴ Education and Examination Code (academic year 2024-2025), Ghent University.

⁵ Comp.: KA YUK CHAN, C., HU, W., 'Students' voices on generative AI: perceptions, benefits, and challenges in higher education', International Journal of Education Technology in Higher Education, vol. 20, article 43, 2023.

These sources can be limited, inaccurate or even consciously biased and misleading/prejudiced. This can come to a point where, despite safety mechanism to assure ethical answers, GenAI is trained or fed to give 'colored' information.

27. Apart from concerns on 'quality'-control by the student using GenAI, its possible impact on academic integrity must be considered.
28. For HEIs GenAI brings two specific concerns. The first one is linked to 'inequality'.

GenAI-tools, though seemingly lowering thresholds for all students, are often offered in different versions, with different performance rates. Some of these versions are behind a pay-wall. The risk of having first and second class access to GenAI now has to be monitored.

The second concern touches upon the ecological footprint of GenAI-tools.

Case study: GenAI-policy at Ghent University

Challenges for evaluation

29. It was pointed out before that Ghent University opts for the acceptance GenAI. The paper investigates critically, alongside this choice to encourage 'reponsible' use, how the pitfalls are dealt with.

First of all, GenAI will put pressure on current evaluation methods, as they are strongly focusing the 'product' (written output).

30. Whether students master the subject of their research, will to a greater extent than previously be assured by the oral defence of the dissertation, where the student can be questioned thoroughly.

Moreover, the 'process' of writing an assignment will be subject to stricter monitoring and can have a greater weight in the score distribution.

A minimum number of discussions with the supervisor can be a prerequisite for handing in the written product, group discussions with students can enhance their engagement. Participation in and contribution to such events can be part of the evaluation process.

31. HEIs must be aware of the fact that assignments in writing, especially the master's dissertation, will be more demanding for staff members.

Academic staff will have to get acquainted with GenAI as it is probable that students are often ahead of them in knowing how to use and understand this technology.

32. A more holistic approach must allow for refusing a student to pass although the outcome of the writing process is of sufficient quality, but other criteria indicate that despite the output the student has not successfully acquired the crucial competencies, as laid down in the course sheet and clarified in the guidelines.

A strict mathematical calculation of the final score is an outdated approach that probably does no longer assure the acquisition of competencies that are considered to be crucial. More AI-proof elements of assessment must be stressed and also 'rubrics' can help scaling competencies and hereby differentiate what AI-tools can do and where human intervention created value.

AI-literacy as a core competency

33. As the use of GenAI is also for research activities inevitable, a competence related to AI-literacy could be attached to the master's dissertation (and/or other writing tasks).

Thus, students are not only allowed to use GenAI, but have to use it in a responsible manner.

34. Thereto comes the obligation to reflect on their use of GenAI and to document their use and reflection. Accordingly, students have to report on it.

A checklist, an overview of the prompts used, a preamble, (commented) different text versions can all be helpful tools in this regard⁶.

Challenges on a broader level

35. Based on the consequences of the use of GenAI on the guidance in writing assignments (such as the master's dissertation), the definition of learning outcomes and assessment strategies, the course file will need to be adapted.

Changes in the practice of guiding/coaching students (preparing students to using AI-tools, stressing the process of writing a master's dissertation, foreseeing more feedback moments) can thus be very impactful on a strategic level (eg. staff requirements,...).

36. Questions that popped up for the master's dissertation will analogously raise for other writing assignments. If GenAI affects their learning outcomes, the first question to answer refers to whether these outcomes are still a 'must' in the course. Maybe GenAI affects their necessity in society. Or other course units may sufficiently assure them.

It is crucial to have the courage to at least within the programme consider the impact of GenAI on the study process.

37. When doing so, one may come to the conclusion that assignments remain very relevant for the learning objectives, but do not any longer allow to evaluate students' abilities regarding these objectives soundly.

Assignments then have to be assessed in a 'controlled' setting that assures their validity. This also requires awareness of the fact that it is an erroneous premise that students don't use GenAI and consequently assessments based on that premise lack validity.

Writing comes with basic skills and generic competencies that are essential from an academic point of view...as well as to deal properly with AI. It is important to allow for settings that effectively test these academic competences.

38. Over time, programmes not only have to determine what 'competencies' students have to obtain without the assistance of GenAI and what courses will address and test them.

The need of on-campus exams, of physical surveillance as well as the risks that come with BYOD policies versus the cost of (re-)investing in computer classrooms and staff, need consideration as well. Moreover, off-campus tests also bring validity-concerns.

⁶ For further information: 'Handleiding: masterproef herbekijken door de impact van Generatieve AI', Ghent University (Directorate of Educational Affairs), 2024, https://onderwijstips.ugent.be/media/uploads/handleiding_masterproef_herbekijken.pdf. Especially interesting is p. 12 on 'transparency'.

Maybe a mixed and gradual approach is useful. Skills with a fundamental can be assessed in a 'closed' setting. In a later stage of the studies, when they are acquired, course units can challenge students to bundle them with GenAI and build on the output of that joint skillset.

Conclusion

39. GenAI is a roller coaster for HEIs. The technological (r)evolution affects study programmes as well. It forces programme managers/committees to reconsider what relevant outcomes of a study programme are and how they are assured.

When a student prepares a master's dissertation/bachelor's thesis, he has to integrate domain-specific and generic competencies and skills, solving a research question in a complex setting and reporting on it (results, methodological choices,...).

40. The master's dissertation is the cherry on the academic cake. A student proves to be able to dig in a complex problem and approach that problem in an academically sound manner, embedding the problem in the existing knowledge/literature of the concerned field of expertise and report accurately on the research findings and how they were found.

It is questionable though whether students will still give proof of the ability to bake that cake due to the AI-support they receive. Will the cherry still validly prove that students have baking skills. Even more, is it still relevant to have and prove these skills.

41. GenAI will, beyond the scope of this paper, inevitably lead to the question whether a dissertation as a cornerstone of an academic study programme is still relevant. Maybe GenAI will erode the challenge to solve problems, combining complex academic skills. It will affect a characteristic of academic education.

42. The master's dissertation plays an important role in helping students to acquire academic competencies at a high level. In Flanders it is a required and important component of a master's programme. It has to be discussed whether all the objectives the legislation connects to the master's dissertation are still relevant and feasible.

43. Notwithstanding possible long-term negative affects – on language development, creativity, self-reliable critical sense -the power of GenAI cannot be left unused. GenAI's possible impact on procrastination or memory loss may sneither be neglected.

Students must be encouraged to use AI as a complementary resource instead of as a tool that completes academic tasks without noteworthy cognitive effort. At this point, GenAI-proof assignments retain their relevance.

44. GenAI is there, to stay. One of the crucial aspects of learning students to use GenAI in an effective and responsible way is to create awareness and provide knowledge. It allows to smartly interact with GenAI.

The paper clarifies that it is defensible that the master's dissertation offers students a framework to develop competences that characterize them as 'academic'.

Writing is a great tool to acquire those skills. GenAI puts those skills in another perspective, but makes them not irrelevant.

45. Therefore, in general, the academic community is convinced of the value of the master's dissertation as a lever for academic competences.

So, while celebrating the master's dissertation, the paper suggests to bury it. At least in its current form, it is not fit for purpose anymore. It is a burial with mixed feelings and an call to conceive an adapted approach to train and test its core objectives.