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Background

The faculty board of the VU Faculty of Science (hereinafter referred to as BETA) is aware that there is a need for clear guidelines on the use of generative AI (hereinafter referred to as GenAI) in education. VU already has several guidelines in place^{1 2}. However, BETA teachers, curriculum designers and examination committees asked for additional and/or more specific faculty guidelines, that they can fall back on. The following document has been compiled using a number of available documents and guidelines as inspiration. Sources include (non-exhaustive): VU guidelines (both VU-wide and other faculties), guidelines used by other universities and procedures used by various programmes within BETA. This document will be updated as new VU guidelines are published and as the state-of-the-art progresses. Parts of these guidelines will be incorporated within the BETA assessment policy where appropriate, as the two fields occasionally overlap.

The BETA guideline on use of GenAI consists of 3 parts:

- **Part I:** An exploration of the challenges of the use of GenAI in education and a justification of the choices BETA makes in the use of generative AI. This document serves as a context for the BETA policy and is available for all interested parties.
- **Part II:** BETA policy and guidelines on BETA curriculum design. This document states what is and is not allowed concerning the use of generative AI in BETA education (necessarily non-exhaustive) and gives some background for programme management and teachers on how to design a curriculum aligned with this policy.
- **Part III:** Guidelines for curriculum, course and assessment design regarding AI literacy. This document gives guidance to programme management, teachers and examiners on how to implement the policies on the use of GenAI in BETA education. It also includes some tips and best practices which have previously been shared by the Center for Teaching and Learning (VU CTL).

This document is a living document, since GenAI is continuously evolving, it would be presumptuous to define a definitive guideline.

¹ <https://vu.nl/en/student/examinations/generative-ai-your-use-our-expectations>

² <https://vu.nl/en/student/examinations/generative-ai-your-use-our-expectations>

Part I: The challenges of generative AI in (BETA) education

Following the need for clear guidelines on the use of GenAI for BETA VU, the BETA Faculty Board defines a set of three basic principles that apply to all programmes within BETA VU:

1. Shift of focus from outcome (grade) to the process of learning.
2. GenAI literacy as an integral part of each study programme, teaching both the use of GenAI and ethical aspects (both moral and environmental).
3. Clear guidelines as to what constitutes fraud and what does not.

These principles are more clearly defined in part II: BETA policy on the use of GenAI. The justification of how these principles came to be by outlining the challenges GenAI poses as a whole and to higher education in particular, is contained in this part I. This document therefore serves as a context for the BETA policy and is available for all interested parties.

1. What is generative AI?

Generative AI refers to advanced machine learning models that can create new content, such as text, images or code, by learning from existing patterns in large amounts of data, typically in the form of 'machine learning'. Despite the sudden hype in recent years, GenAI has been around since the mid-2010s, with significant advancements over the years. The release of OpenAI's ChatGPT, based on the GPT-3.5 Large Language Model in November 2022, surprised many across society by combining advanced text generation with an intuitive chat-based interface, making sophisticated AI tools broadly accessible. See, for example, the following example interaction with OpenAI's ChatGPT, based on a prompt asking information about GenAI in higher education:

What is Generative AI?

Generative AI is a type of artificial intelligence that creates new content, like text, images, music, or videos. Instead of just analyzing existing data, it learns from large amounts of information and then produces original content. For example, it can write essays, generate artwork, or compose music based on patterns it has learned.

Impact on Higher Education

Generative AI is transforming higher education in several ways:

1. *Personalized Learning: Generative AI acts as a personal tutor, offering customized explanations, practice problems, and feedback. This helps students learn at their own pace and according to their individual needs.*
2. *Educator Support: AI assists educators by creating course materials such as quizzes and assignments. It can also help with grading, allowing teachers more time to focus on interacting with students and improving their teaching methods.*
3. *Creativity Boost: In creative subjects like writing, art, or music, generative AI provides new tools for brainstorming and exploring different styles, expanding opportunities for creative learning.*
4. *Research Assistance: AI helps researchers by generating ideas, analyzing data, and summarizing large amounts of information, making research faster and more efficient.*
5. *Ethical Challenges: The use of AI in assignments raises concerns about plagiarism and academic honesty, pushing universities to rethink how they assess student work.*

In summary, generative AI is reshaping higher education by enhancing learning, supporting educators, fostering creativity, advancing research, and prompting important discussions about ethics and academic integrity.

The above text was generated using ChatGPT via <https://openai.com/chatgpt/>, using the prompt: "Explain in simple language what generative AI is, and how generative AI impacts higher education. Use no more than 250 words." (ChatGPT-4 (August 2024 version))

2. Challenges of GenAI

Please note that the above example shows that ChatGPT generated overwhelmingly positive output to a neutral prompt, with only one minor comment about potential downsides (“Ethical Challenges”). This imbalance demonstrates one of the risks present in the use of such GenAI tools: output can be biased. The following list contains some of the more problematic elements of GenAI tools that are occasionally glossed over:

- **Bias**
 - **Bias in quality:** GenAI tools are based on large volumes of input data, which are compiled from a variety of sources, making it difficult to establish whether output is trustworthy. GenAI tools will present grammatical phrases that come across as competent writing, but the contents can be derived (partly) from unverified sources, marketing material or even misinformation. As such tools will typically not offer references to their sources, users have no way of verifying the information a GenAI tool offers (other than manually checking using other methods).
 - **Model bias:** Biases can occur accidentally or be deliberate. Accidental bias may occur when there is an unintentional bias in the data used to train the GenAI tool (for example, data reflecting existing social biases, if certain groups are under- or overrepresented in the data, etc.). GenAI tools can also have a deliberate bias, in which the GenAI tool is specifically designed or willfully trained to reflect that bias. Both are hard to recognize, especially because many tools do not share their source code and, if they do, most users are not trained to read the code.
 - **Hallucinations:** GenAI tools ‘hallucinate’ when they produce outputs that sound plausible but are factually incorrect or fabricated. GenAI tools predict the next word in a sequence based on learned patterns in the data, therefore they are skilled at mimicking human language patterns. They lack a mechanism to verify the truthfulness of the content. If a model hasn’t seen specific information or lacks recent training data on a topic, it may fill in the gaps by generating an answer that sounds plausible based on similar topics. Also, if a prompt is too broad or involves complex topics, GenAI tools may mix together loosely related details in an attempt to answer the prompt even if this leads to inaccuracies.
- **Data security and ownership:** anything users feed into a GenAI tool will typically be stored on a remote server. This is required for the operation of the service, as most users want to be able to refer back to previous interactions, and because companies want to be able to do quality control, troubleshooting and analysis. But stored data can also be analyzed for trends, contents or personal data and be used for further training of the GenAI model. In many cases, such data become the property of the owner of the GenAI tool, which has important implications for privacy, intellectual property and authorship rights.
- **Environmental effects:** the datacenters required to operate (generative) AI tools are highly resource intensive. This goes beyond just the actual computer hardware used, which already includes numerous server racks filled with processors, graphics/neural processing units, storage and network interfaces – all requiring rare metals to produce. Such datacenters also have sizable power needs (competing for other electricity use), land use footprints (competing with residential and commercial use as well as nature) and cooling requirements (often relying on available surface water or drinking water as a cooling medium).

This list is not exhaustive, though these are the most-cited drawbacks to GenAI tools. It is important for users to be aware that use of this technology comes with both positives and negatives. In the rest of this document, we will focus on practical implementation challenges in a higher education context, though at times we will refer back to some of the risks listed above.

It is important to always be aware of that GenAI tools are just that: tools. The tools in itself are neither good nor bad, they have some major advantages but also some major drawbacks and flaws. The way a user interacts with the tool and uses the outcome, determines the result and the tool's usefulness.

3. Challenges of GenAI in higher education

Higher education typically emphasizes knowledge acquisition, which presents significant challenges when using GenAI tools, especially in teaching approaches that focus heavily on written products (e.g., theses, programming assignments). This trend raises important questions about how students are assessed and what roles teachers and programme management should play³.

Each programme within the VU has defined a set of exit qualifications. In the course of a study programme, we ensure that students are taught the knowledge and skills to demonstrate their mastery of these exit qualifications. There is an extensive quality control system in place to ensure that all students who complete their study programme successfully earn the right to their degree and title. As developments in GenAI progress, it will become increasingly difficult to distinguish whether a student submits work that is based on their own thinking and work. When we consider Bloom's taxonomy, on which our learning objectives are largely based, GenAI's strengths often lie in tasks related to remembering, understanding, applying, and analyzing, while its abilities in evaluating and creating are still evolving and may not match those of humans in all respects⁴. Yet, even if GenAI tools cannot convincingly perform all tasks yet, these tools will be developed further and will mimic human responses more and more accurately. As such, GenAI poses a direct threat to the validity of some of the assessment methods we use to ascertain whether students have mastered their study programmes' exit qualifications.

The traditional focus of academic education on results (grades) might give the impression to students that it does not matter how they arrive at the outcome. This opens the door to cutting corners. That in itself is not a new problem; however, it has become substantially easier to cut corners with easier access to GenAI tools. Keeping in mind the challenges GenAI poses to designing a valid assessment, one could argue that both **teaching and assessment methods need to focus on the process** (and not the outcome) of learning, more than ever. Course design should, therefore, emphasize the learning process (formative) rather than (summative) assessment alone. The VU vision on assessment⁵ also takes this approach by putting the focus on the learning process at the core of the vision.

3.1 Challenges of GenAI in assessment methods

Generative AI poses challenges to the validity of examinations in terms of **academic integrity** and **assessment accuracy**. These concerns can be relevant to any written assessment product, be it an essay, report or programming code. The following list summarizes the main challenges GenAI poses to assessment, but is far from exhaustive.

Academic integrity

- **Plagiarism and/or fraud:** In terms of plagiarism and/or fraud, it really does not matter whether a student cheated by copying other students' work, by letting another person do the work for them, or by copying the work of an inanimate object (GenAI). As long as the correct source is not given and the student did not do the work themselves, this would be a clear case of fraud. The difficulty lies in determining whether or not the student actually used GenAI. The GenAI tools are learning at a fast pace, and so called "AI humanizers" are being designed to make artificial intelligence systems produce outputs that are more relatable, empathetic and human-like.

³ (Kohnke et al. 2023)

⁴ Esther Schagen (VU, 2023). Guidelines for Teachers of The Faculty of Social Sciences on Generative AI. <link invoegen>

⁵ VU assessment vision, 2022. <https://vu.nl/en/employee/teaching-at-vu-amsterdam/assessment-vision>

- **Loss of critical thinking skills and problem-solving skills.** If a student uses GenAI to do their assignments and so pass their courses, they bypass learning processes and therefore forfeit the opportunities to learn skills which are invaluable in their future careers, and which the academic world prides itself for. There is a need to redesign our teaching and assessment, to make sure we assess the right skills (and not whether a student knows how to use GenAI).
- **The input of sensitive data in (open) GenAI models,** for example personal information or confidential information regarding studies or organizational information collected in the context of internships, poses ethical concerns regarding data privacy.

When designing assessments, please be aware of the following limitations GenAI tools have:

- **They cannot produce originality.** GenAI models are trained using large datasets and use this as the basis for their output. That way, GenAI models are capable of producing text that is unique in appearance without being original.
- **Very specific and contextual information may be beyond the abilities of a GenAI tool.** GenAI tools are trained using large datasets. Therefore, if an assignment is very 'close to home' contextually, or built around a very specific target group, GenAI might not be able to help a student out.
- **The quality of GenAI-generated responses may vary significantly.** Simply using a prompt and copying the outcome may either lead to acceptable (or even outstanding) work, but might also lead to subpar results if the student does not thoroughly check the output.

3.2 Challenges of GenAI detection software

With the breakthroughs in GenAI, there has also been a countermovement developing **AI detection software**. These tools can often determine correctly that GenAI has been used but also give rise to false positives. Since detection software is based on statistics, just as generative AI itself, there will never be a way of stating with 100% certainty that text is either generated by AI, or not. Given this weakness, use of GenAI detection software as evidence of fraud is strongly discouraged. It may, however, be a starting point for a conversation with the student about their suspected GenAI use. In The BETA policy on the use of GenAI⁶ BETA's policy on the use of GenAI detection software is stated.

3.3 The distinction between Assessment of Learning and Assessment for/as Learning

There is a distinction between Assessment *of* Learning and Assessment *for/as* Learning⁷. Assessment of Learning is mainly summative, assessing whether a student meets final exit qualifications. Assessment for/as Learning is mainly formative, with assessment and feedback contributing to the learning process. Both are necessary to get a good picture of the students' learning process and its outcomes. For the design of assessment and the use of GenAI, this distinction is important⁸

Assessment of Learning produces a grade or pass/fail and assesses whether a student is meeting the learning objectives. As a teacher, this is where you want to impose restrictions (control) on the use of GenAI to ensure that learning objectives are met. To create a valid assessment, both the assessment form and the assessment environment are important. For example, if particular writing skills (e.g. phrasing scientifically versus colloquial) are part of the learning objectives, the use of GenAI may not be allowed in the assessment of these particular skills. If writing skills are not part of the learning objectives, it is wise to choose an alternative assessment format that is not based on writing (e.g. presentation, debate, pitch), where use of GenAI does not risk the validity of the assessment. If it is necessary to ensure that a student does not use external sources, such as use of GenAI, a controlled environment is key. It is also possible to imagine situations where a semi-controlled environment is

⁶ Link toevoegen naar gepubliceerd stuk.

⁷ Black & William, 1999

⁸ Liu, D., & Bridgeman, A. (2023, July 12). What to do about assessments if we can't out-design or out-run AI? – Teaching@Sydney

possible, where the focus of assessment is on the process and transparency around students' use of GenAI.

Assessment for/as Learning focuses on the learning process and provides feedback that students can use to adjust their learning to increase their study success. Thereby, assessment for/as learning lends itself perfectly to learning how to use GenAI in the right way (AI Literacy). GenAI thus becomes a thinking and working tool of students and later professionals⁹. In this process, through guidance, learning to prompt, critical analysis and discussion, and attention to academic integrity, lecturers and fellow students maximize the stimulation of student learning through assignments. Assessment for/as Learning takes place during classes, group-meetings and at home. Given that the learning environment is partly informal and unsupervised, it is not desirable to prohibit the use of GenAI. The use of GenAI is up to the student's own responsibility. Whether the student has learned a pass mark during the learning process is evident during summative assessment in a (semi) controlled environment.

By determining the type of assessment, examiners can identify the assessment environment and the acceptable use of GenAI during the assessment. In the BETA policy for use of GenAI, we will introduce a classification for the use of GenAI for each type of assessment.

4. What do students need to learn about GenAI?

Given the role GenAI has already assumed in society, our next logical step is to establish how to integrate the potential uses and risks of GenAI into our teaching. Part of our job is to prepare students for their future, be it a career in academia or in the broader society. Wherever a student ends up, they'll likely use some form of GenAI. Therefore, one might argue that equipping students with **the skills to use GenAI tools adequately, correctly and responsibly** is part of the programmes' job (we call this **AI literacy**). Of course, some argue that this is a short-term issue, since new generations will grow up with GenAI as part of their everyday life, just like the current generation is growing up with other digital tools. However, consider that a large part of the current younger generation does not know how to **distinguish between fact and fake news**, how to **correctly check sources**, and how to **critically assess evidence presented**. As we have reasoned before when listing the pitfalls of GenAI, these skills will become of even greater importance with the further rise of GenAI. We cannot rely on students being taught this in elementary and secondary school. The next skill to teach our students in relation to GenAI is ethics. While **ethics and academic integrity** have always been objectives in academic study programmes, the challenge increases with the use of GenAI. One of the issues regarding academic integrity is the copy/pasting of generated output and passing it on as someone's own work. This would be considered fraud by the rules of the examination board, as it makes it impossible to judge the student's own knowledge and skills. Also, since GenAI typically relies on a learning model, where data that is fed into the system can be saved for future training data sets, **personal or sensitive data** must not be entered into GenAI tools in any circumstance. However, research suggests that as much as 55% of GenAI inputs contains such data¹⁰. This underlines the need to teach our students what constitutes sensitive information, and why it is so important never to enter it into GenAI tools. The high percentage of sensitive GenAI input suggests that our society does not yet treat sensitive information with appropriate care and restraint. Additionally, the definition of sensitive data might not be consistently formulated or accepted in the same way across society. From preliminary inventories of some Science students¹¹, it seems that many students use ChatGPT as a substitute for Google; they rely on it for factual information, as an introduction to certain topics that they find difficult. Without further fact-checking, this poses a risk to academic integrity.

⁹ <https://vu.nl/nl/medewerker/didactiek/ai-bestendig-toetsen-met-de-tweebaansbenadering>

¹⁰ <https://resources.menlosecurity.com/reports/the-continued-impact-of-generative-ai-on-security-posture>

¹¹ link naar research iH2LS invoegen

Microsoft Copilot

To eliminate problems with private and sensitive data, VU has a license agreement for the use of Microsoft Copilot, for anyone with a VUID. Data are protected within VU, meaning data will not be used for training the AI model. Microsoft Copilot can also save a prompt/chat history, which students can download as a log (proof of how they used GenAI in their assignment). Teachers can ask students to use this specific tool, they cannot ask or require the use of other tools (such as ChatGPT) for which VU has no license agreement. The license also helps in avoiding any student inequalities, since all students have equal access to this tool. However, keep in mind that there are other GenAI tools, where students who have the means to purchase the paid version or elect to share private information might still be put at an advantage over other students.

Both students and staff need to be aware of the possible consequences of entering and storing data. More explicit: the faculty board of BETA VU states that no personal or sensitive data may be entered into GenAI tools in any circumstance, including Microsoft Copilot. Even though the data entered into Copilot are kept within the VU container, data is still stored. This makes the data susceptible to leaks through hacks, for example. Once data is stolen it can be sold and linked to larger data sets. This can lead to seemingly innocuous data linking back to individuals. When sensitive data have been entered into Copilot as a 'safe' tool, the risks are even greater.

In addition to these ethical conundrums, students should also be made aware of moral issues in the form of **environmental consequences** when using GenAI. Every query submitted to a GenAI requires the use of a lot of energy and water and large data centers are required to run GenAI tools.

Following this line of thought, since the use of GenAI in education will be scrutinized by examination boards we need to make abundantly clear to students **what does and does not constitute fraud**. VU BETA qualifies fraud as: *'any act or omission by a student that partially or entirely precludes an accurate assessment of their knowledge, understanding and skills, or those of another student.'* (See article 19 of the Rules and Guidelines of the examination board BETA VU¹² for further explanations of the terms 'fraud' and 'plagiarism'.) Evidence seems to suggest that there appears to be limited awareness as to what constitutes fraud amongst students¹³. There is a big role for institutions in preventing fraud, by better guiding students and by explicating what procedures are when fraud is suspected and/or established. A higher degree of awareness among the student community and more efficient information campaigns seem to be the key to limiting fraud in education.

4.1 Generative AI as a writing aid

Another way in which students are using GenAI tools is as writing aides; asking GenAI tools to improve their own text. This is similar to more traditional computer assisted writing aids that have been in use for years, for example in Microsoft Word, helping them improve grammar and spelling, but also sentence structure and offering other forms of text enhancement. While these tools rely on pattern recognition for scripted suggestions for text improvement, and not creating new content per se, some of these tools are now offering GenAI functionalities (sometimes in a paid version only). Therefore, we feel it is right to include a policy on these types of tools as well. It is almost impossible to banish tools for revision, since it is almost impossible to prove the (ab)use of a writing aid. Therefore, the better option is to guide students to use writing aids responsibly, whether they are GenAI or simply computer assisted writing aids (Microsoft Word, Grammarly, DeepL Write). The conditions under which students may use GenAI as a writing aid are stated in Part II: BETA policy on the use of GenAI. Use of these tools may be particularly beneficial for non-native speakers of the programme language, or those who struggle with language fluency and/or dyslexia, thus reducing student inequalities.

¹² Rules and Guidelines examination board BETA VU 2024-2025 <https://assets-us-01.kc-usercontent.com/d8b6f1f5-816c-005b-1dc1-e363dd7ce9a5/0dcf44f3-3847-4ad8-be63-30271239c01b/Rules%20and%20Guidelines%20Examination%20Board%202024-2025.pdf>

¹³https://www.cimea.it/Upload/Documenti/Fraud5_Student_awareness_on_fraud_in_education_singole.pdf

Part II: BETA policy on the use of GenAI

In part I, BETA VU's basic principles on use of GenAI were introduced, along with a description of the context and justification of these principles. In this part, we summarize the current VU policy and elaborate on the way BETA chooses to further implement the VU policy.

1. What is VU's policy in regard to the use of GenAI?

In response to the developments in GenAI, VU has drafted guidelines for students regarding the responsible use of GenAI¹⁴. The baseline of the VU guidelines is simple:

- Students are **not allowed to use GenAI unless** the teacher and/or examiner has specifically indicated if and how this is allowed (in the study guide, syllabus, and/or Canvas).
- VU expects students to learn and acquire knowledge on their own merit. The writing process is an important part of this, where teachers and/or examiners need to be able to identify the contribution of a student to the final product. In addition to the rule that the use of GenAI is prohibited, unless explicitly permitted by the teacher and/or examiner, **any form of literal copying and copying without full source citation** (quoting, referencing) of any material is **considered fraud**, since the examiner will be unable to assess the extent of the students' knowledge and skills. Rules and consequences for fraud and plagiarism are also explicitly explained in the VU guidelines for **academic integrity**¹⁵.
- Should the teacher and/or examiner have suspicions about the use of GenAI in a way that was not allowed, they may conduct a discussion with the student and, in case of persistent doubt, **refer the case to the examination committee**.

2. What is BETA's policy regarding the use of GenAI?

As a faculty of the VU, BETA follows the VU guidelines on the use of GenAI and endorses the importance of a student's own work and the need for examiners to assess the student's extent of knowledge and skills. However, BETA has formulated some **additional guidelines expanding on the VU policy**. BETA argues the case that GenAI should be **embraced**, but with caution. Therefore, it **should hold a place in any study curriculum**, teaching students **the skills to use GenAI tools adequately, correctly and responsibly**.

2.1 Assessment of Learning and Assessment for/as Learning

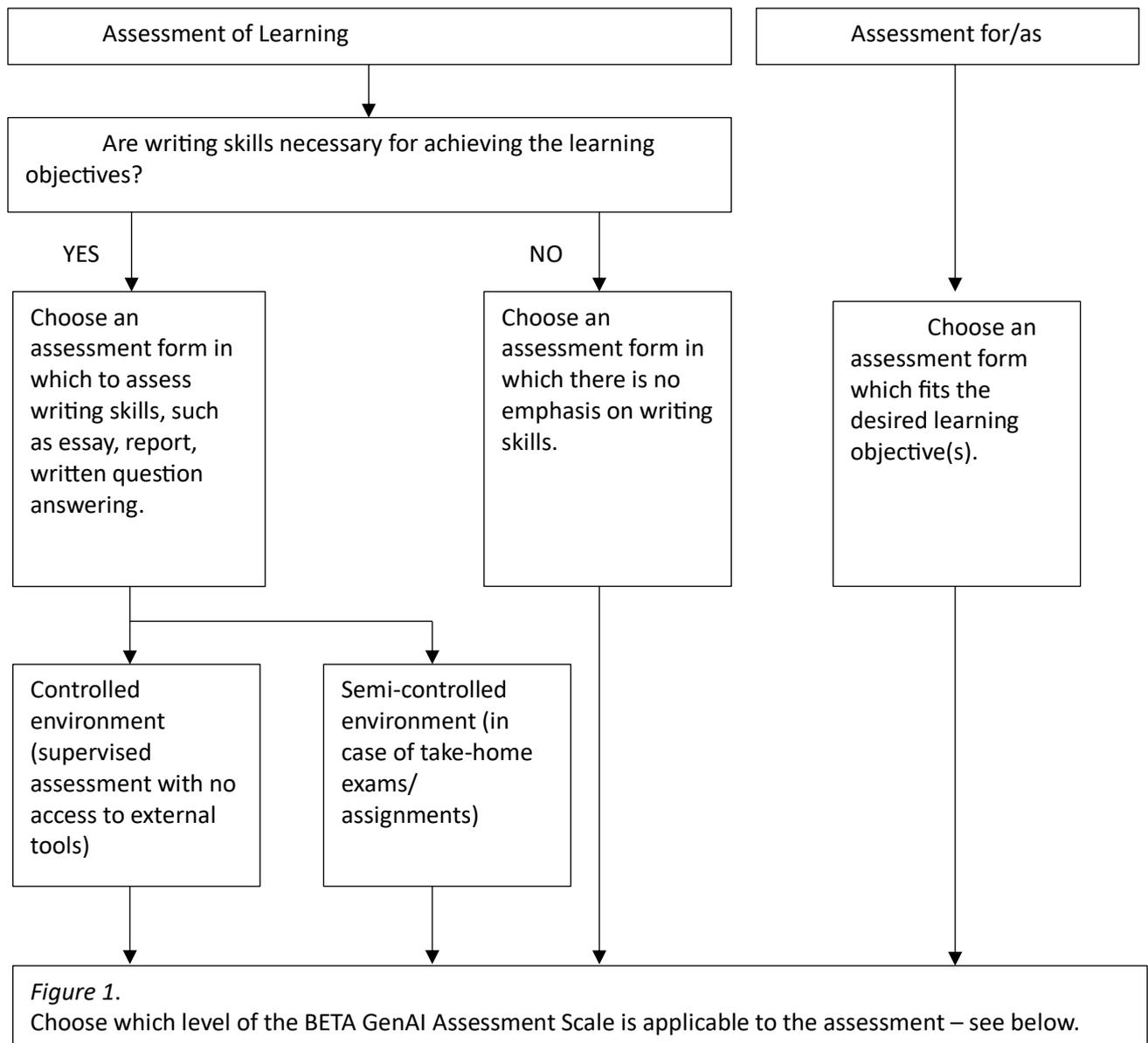
Following the VU's Assessment vision, BETA VU makes a distinction between **of** Learning and Assessment **for/as** Learning¹⁶. Assessment of Learning is mainly summative, assessing whether a student meets final exit qualifications and contributed to the final grade. Assessment for/as Learning is mainly formative, with assessment and feedback contributing to the learning process. Both are necessary to get a good picture of the students' learning process and its outcomes. For the design of assessment and the use of GenAI, this distinction is important. It determines the environment in which assessment takes place (controlled/ semi-controlled/ not controlled), whereupon the acceptable use of GenAI during the assessment can be identified.

The decision tree below includes a schematic representation of the selection process to determine the type of assessment and the assessment environment. We then turn to a classification model for the extent to which the use of GenAI is allowed within BETA, in the different types of assessment and assessment environments.

¹⁴ <https://vu.nl/en/student/examinations/generative-ai-your-use-our-expectations>

¹⁵ <https://vu.nl/en/student/examinations/academic-integrity>

¹⁶ Black & William, 1999



2.2 The GenAI Assessment scale

The VU guidelines do not (yet) provide adequate guidance for the type of use of GenAI. There are many forms of GenAI use, which may be desirable or permissible in some situations and less so in others. The BETA policy aims to provide this clarity for teachers, by implementing a GenAI Assessment Scale (adapted from The AI Assessment Scale (AIAS))¹⁷. This scale enables examiners to select the appropriate level of GenAI usage in assessments based on the learning outcomes they seek to address. It offers greater transparency for both students and examiners and both embrace the opportunities of GenAI while recognizing that there are instances where such tools may not be needed and/or wanted. The AIAS has been slightly modified and added to for application within BETA.

¹⁷ Perkins et al. (2024). <https://open-publishing.org/journals/index.php/jutlp/article/view/810/769>

Level	Description	<ul style="list-style-type: none"> Application 	When is use in BETA allowed?	
			Formative (in-class and take-home) assignments*	Summative Assessment
Level 1	No GenAI	<ul style="list-style-type: none"> GenAI is not used at any point during the assessment. Assessment is supervised (no take-home). Used for assessment tasks where learning outcomes require students to rely solely on their own understanding, knowledge, or skills. 	At teachers' discretion. If this level applies, teacher actively informs students.	This is the default for all on-campus and supervised assessments unless stated otherwise. Take-home assessments: not applicable.
Level 2	GenAI-assisted idea generation and structuring	<ul style="list-style-type: none"> No GenAI content is allowed in the final submission. GenAI can be used for brainstorming, creating structures and generating ideas Used for tasks in which students may benefit from extra support in developing ideas or improving their work, but in which the final product must be solely human-authored. 	This is the default, along with level 3, for all formative (in-class and take-home) unless teacher specifies the use of level 1.	Not allowed for on-site and supervised assessment Take-home assessments: This is the default, along with level 3, for all summative at-home assessments.
Level 3	GenAI-assisted editing	<ul style="list-style-type: none"> GenAI can be used, but students must include a declaration of use of GenAI in their work, stating how the student used GenAI (for example: GenAI log/chat history, appendix with prompts or the original work before use of GenAI, reflection on how GenAI was used). It is up to the student to be concise and complete. The teacher may either decide on a format for this declaration or leave this up to the students. GenAI can be used to make improvements to the clarity or quality of student created work to improve the final output, but no new content may be created using GenAI. Used to employ generative GenAI for refining and editing the language or content of their original work. 	This is the default, along with level 2, for all formative (in-class and take-home) unless teacher specifies the use of level 1.	On-site and supervised assessment: not allowed.** Take-home assessments: This is the default, along with level 2, for all summative at-home assessments.
Level 4	GenAI task completion, human evaluation	<ul style="list-style-type: none"> GenAI can be used to complete specified tasks in the assessment. Any GenAI created content must be cited and students must include a declaration of use of GenAI in their work, stating how the student used GenAI (for example: GenAI log/chat history, appendix with prompts or the original work before use of GenAI, reflection on how GenAI was used). It is up to the student to be concise and complete. The teacher may either 	At teachers' discretion, this is not the default.	On-site and supervised assessment: not allowed.** Take-home assessments: At teachers' discretion, this is not the default.

		<p>decide on a format for this declaration or leave this up to the students.</p> <ul style="list-style-type: none"> Students must critically engage with and assess the GenAI output that they have created and evaluate their relevance, accuracy, and appropriateness. Encourages deeper understanding of the capabilities and limitations of GenAI tools. 		
Level 5	Full GenAI	<ul style="list-style-type: none"> GenAI may be used throughout the assessment. Students do not have to specify which content is GenAI generated. Used in tasks which require the use of GenAI tools as part of addressing learning outcomes or when the skills and knowledge being assessed can be tested irrespective of GenAI usage. 	At teachers' discretion, this is not the default.	<p>On-site and supervised assessment: not allowed. **</p> <p>Take-home assessments: At teachers' discretion, this is not the default.</p>
<ul style="list-style-type: none"> Table 1. <i>The BETA GenAI Assessment Scale, as adapted from The AI Assessment Scale, Perkins et al. (2024)</i> 				
<ul style="list-style-type: none"> * Formative assignments (both in-class and at home) do not count towards the final grade, but serve as practice and feedback opportunities. 				
<ul style="list-style-type: none"> ** In cases where AI literacy is one of the learning objectives, the teacher may opt to explicitly allow the use of GenAI in assignments and/or assessments. This needs to be explicitly stated by the teacher/examiner. 				

Regardless of the applicable level, the basic rules for academic integrity and fraud still remain in place. Meaning, if a student is suspected of fraud and cannot convincingly prove authorship, the case may be referred to the examination committee and sanctions may follow.

2.3 Use of GenAI detection software

The Faculty Board of BETA VU **does not allow use detection software as evidence of fraud**. Software is not sufficiently capable of detecting whether products were generated by AI: it often can determine correctly that AI is used, but not reliably so and it also has a high chance of false positives, hence detection software is not a satisfactory option. Since it is to be expected that the evolution of GenAI tools will always remain ahead of the developments in detection tools, we do not expect the status quo to change.

2.4 Use of Microsoft Copilot

The faculty Board of BETA VU states explicitly that **no personal or sensitive data** may be entered into GenAI tools in any circumstance, including Microsoft Copilot. Even though the VU has a license agreement for Microsoft Copilot, there is no way to completely guarantee the safekeeping of the data entered. Both students and staff need to be aware of the risks involved in entering and storing data in any GenAI tool.

3. Study guide disclaimers

The FB BETA advises all course coordinators to implement their choice of the following text in the course guide/ syllabus, as an addition to the Rules and Regulations of the examination committee 2024-2025 (choose the one that is applicable):

Choose one (or several, if applicable) off options below:	
Option 1: If the use of GenAI is not allowed in the	The use of GenAI to create ready-made content in assignments is considered fraud unless this use of GenAI is explicitly permitted by the examiner in the instructions for the assessment. One reason for not allowing the use of GenAI may be the confidentiality of research data, since AI tools can store all prompts, which creates the

course and/or assessment	risk that the data can be viewed by third parties. Please adhere to the university's integrity policy and follow the VU's recommendations on responsible use of GenAI.
Option 2: If the use of GenAI is allowed within a course and/or assessment	<ul style="list-style-type: none"> • The level of GenAI use is allowed in the course and/or assessment is: <xxx, see the <i>BETA GenAI Scale above</i>>. • You are permitted to use GenAI on the condition that you use it responsibly and that you adhere to the university's integrity policy and follow the VU's recommendations on responsible use of GenAI. We expect you to develop a critical attitude towards AI and to use it in a productive and proper manner. • Do not share any sensitive or confidential data, since AI tools can store all prompts, which creates the risk that the data can be viewed by third parties. • Be advised that acquiring academic writing, designing and reflection skills is an important part of your academic training. The use of GenAI should only be used in support of, not as a replacement for, these skills. • You will always be held accountable for the correctness, completeness, and coherence of all text used in an assignment. • If you decide to use GenAI for an assignment, we expect you to report on it honestly following these steps (add them in an annex to your assignment)¹⁸: <ol style="list-style-type: none"> 1. Include the GenAI tool you used and the prompts that you used; 2. Include the results of your prompts; 3. Include a reflection discussing how you used the AI generated text: describing the prompts you used, why you gave the prompts in this way, and why/how you used or did not use the generated answers in the process of writing your thesis. (Length ½ -1 A4). • Keep a log of your work, showing your progress through versions of your work. You do not need to hand these in as part of the assignment, but if the examiner has doubts about the correct use of GenAI, the examiner and/or examination committee may request these from you. You are obliged to cooperate with this request. Therefore, keep a good record of how you proceeded, including a shareable link from ChatGPT (or other GenAI tool) to show your conversation with the AI software.
Option 3: In case of group work (both when using GenAI and without)	<p>To avoid discussions on group assignments, who is responsible for what part, and whether and how GenAI was used, it is mandatory to supplement the final submission with a succinct trail of responsibilities. This involves:</p> <ul style="list-style-type: none"> • a description of who wrote which section(s), who merged all parts, who was responsible for proofreading, etc. • When GenAI was used, this includes a statement on how GenAI was used, for example: which tool was used (why and how), list of prompts used, log history, etc. <p>This part is to make everybody's contribution transparent.</p>

¹⁸ An example format for such a declaration can be found in the annex to this document.

4. Designing learning path for skills

BETA firmly argues that study programmes should be viewed as a **coherent and well-aligned programme, keeping in mind the workload and studyability of the programme (constructive alignment¹⁹)**.

Besides programme-specific knowledge and cognitive skills, we strive to teach students broader (not necessarily programme-specific) skills. Examples include presentation skills, teamwork, **academic writing**, and following recent developments also **AI literacy**.

Often, skills are both taught and assessed in multiple courses. This makes sense from a course perspective, since many different skills might be taught in one course. However, consider the curriculum level. If one of the final exit qualifications of the programme concerns a specific skill, is it not enough to *practice* that skill in multiple courses, but only *assess* it once or twice, together with the final project? This requires a way of thinking about curriculum design in which courses are not always stand-alone in setting their course objectives but need to be coordinated within the teaching team, resulting in a learning path for a specific skill set. Minimizing summative assessments also eliminates possibilities for abuse of GenAI.

Divided over the curriculum one should be mindful how to locate and balance the following:

- Specific instructions on a certain skill
- Specific practice of the skill and improving the skill with feedback
- Using the skill as a mode for assessment without specific attention for the development of the skill itself (maintenance of the skill level).

This way of thinking about teaching and assessing skills (including the use of GenAI) is closely related to the assessment policy guidelines (which will be updated in 2024-2025 to reflect this close relationship as well) and this document will expand on this topic.

4.1 AI literacy as a learning path

With all the news coverage of GenAI, we need to be careful to not let GenAI take over the curriculum. Just like with each new educational innovation there is a risk that the new overshadows the known. Much as any other skill, like presentation skills and teamwork, AI Literacy should be practiced several times in the curriculum, but not be the headline in every course. An easy way to incorporate AI literacy into the programmes is to align the skills with the so called 'information skills' (how to use sources, how to judge quality, etc.) and/or with the academic core. When using the term AI literacy, we mean both the practical use of GenAI and understanding the ethical (both moral and environmental) implications of using GenAI.

A **coherent curriculum design** is necessary to determine a place in the curriculum dedicated to **AI literacy skills**. The learning objectives are leading in curriculum design, and the curriculum should build up to attaining the final exit qualifications. When building (or reviewing) the curriculum, skills pertaining to AI literacy should be considered. Please refer to the guidelines on AI literacy in education as compiled by the UvA-VU Taskforce AI in education²⁰ for guidelines on starting points for translating AI literacy into teaching practice and learning objectives.

4.2 Academic writing as a learning path

Another factor to consider when designing the curriculum is **the place of writing skills in the curriculum**. As we will explore in the next section on assessment, writing assignments are most at risk of abuse by use of GenAI. However, many of our courses rely heavily on written assignments during the course itself, as partial examinations, as a final examination of the course, and as part of the final

¹⁹ <https://vu.nl/en/employee/didactics/motivated-students-with-constructive-alignment>

²⁰ Link invoegen, document breed beschikbaar na 6 december 2024.

project, along with other written products such as take-home exams. During the curriculum, we need to teach students the skills needed for academic writing. However, it may not be necessary to do so in every course that it currently features in. See above for the suggestion of aligning the curriculum using learning paths for specific skill sets, thus upholding the education of students in the skill but limiting the number of assessments, and therefore opportunities for misuse of GenAI. Cutting down on the number of written examinations also allows us to make sure that the few written assessments that are carried out have sufficient controlled environments where GenAI cannot be used.

5. What would this look like in practice?

1. The exit qualifications are the starting point for each study programme. The curriculum is designed to lead students to mastering these exit qualifications at the end of their study programme. Therefore, the exit qualifications should not only reflect knowledge, but also any (academic) skills deemed necessary for a student to have obtained in order to graduate. Anything you wish to assess should count towards the mastery of the exit qualifications.
2. Next, determine in which courses which learning objectives should be addressed and at which level. Students need to be able to practice skills multiple times, before they are required to prove their mastery of the skills at the final attainment level of the exit qualification. Therefore, for each skill, determine specific courses where the skills will be practiced and/or assessed. For example, consider creating learning paths for each skill.
3. Then decide where the summative assessment (counting towards a grade) of the skill takes place. This could be one or multiple times in a curriculum but does not need to be part of every course where the skill is practiced. For example, a skill can be practiced only, or put to the test in a formative assessment (for example, a debate or peer review), where the student does get feedback but not a grade. Only at determined moments in the curriculum, the practiced skills might be assessed. It is good not to leave too much time between the last practice and the summative assessment, to help students get a timely 'wake-up call' to practice.

If students opt for the 'easy way' and not properly practice the skills in the courses where they are being taught, since there is no grade attached to their efforts, they will not be able to pass the summative assessment later in the programme when it does take place. This calls for a different way of thinking about the place and purpose of courses in the curriculum. A student might not make optimal use of the possibilities a course offers, which can admittedly be absolutely frustrating to the teachers: both the teacher of the course with the formative assessment, where students may slack off, and the teacher of the course with the summative assessment which might have a low pass rate. However, in the long run, over the course of the study programme, the student will feel the repercussions and the need to start mastering the skills necessary.

If we take writing skills and the use (or abuse) of GenAI as an example, a student might opt for the 'easy way' in courses that give opportunities for practicing writing skills. They might use GenAI to do exercises for them, thus not learning the proper skills necessary. Later on in the curriculum, these students will either show that they did learn sufficiently during these courses to pass the summative writing assessment, or they will fail, thus showing that they never properly made use of the practice opportunities.

It will take time to re-educate students (and teachers) and to familiarize them with this form of education. Communication is key here, explain to your students why you follow this approach and what you expect from them. Working together as a team with all teachers and examiners in the programme, is therefore absolutely necessary when optimally shaping the curriculum. The programme director has a leading role here and is crucial for the success of this endeavor. It needs to be clear for everybody involved that the objective is for students to learn, not just to pass the examinations.

Part III: Guidelines for curriculum-, course- and assessment design related to AI literacy

In this document, we give guidelines for curriculum, course and assessment design regarding AI literacy. This document gives guidance to programme management, teachers and examiners on how to implement the policies on the use of GenAI in BETA education²¹. It also includes some tips and best practices which have previously been shared by the Center for Teaching and Learning (VU CTL).

1. Curriculum design

1. Educate students (at the very least) at the start of each year of study about the boundaries concerning the use of GenAI in their studies. This involves the VU guidelines for responsible use of GenAI, and the VU's guidelines for academic integrity. Not only inform students of the existence of these guidelines but also educate them on what does and does not constitute fraud. This is not only important for students to know, but will also save teachers, examiners and examination boards sizable amounts of work.
2. Review the final exit qualifications of the programme, and discuss (with teachers, examiners, and programme committee) whether the ability to correctly and responsibly use GenAI (AI literacy) should have a place in the exit qualifications of the programme. Since the entire curriculum is geared towards the mastery of these exit qualifications, this influences the focus in the programme on these skills. For instance, this skill set could be integrated with the 'information skills' that are often mentioned in the exit qualifications of BETA programmes.
3. Also, please refer to the guidelines on AI Literacy in education as compiled by the UvA-VU Taskforce AI in education²² for guidelines on starting points for translating AI literacy into teaching practice and learning objectives.
4. Next, determine how to incorporate education on the use of GenAI. Single out specific courses where these skills might be practiced and/or consider designing a learning path.
5. Decide in which courses the specific skill will be practiced (and maybe assessed formatively), and where the skills are assessed summatively (counting towards a grade). A skill does not need to be assessed every time a skill is practiced.
6. Also carry out steps 2-4 for the academic writing skills, since academic writing and the use of GenAI are the most at odds with each other. Try to integrate it into courses where information skills and/or writing skills are assessed. Courses where you specifically train and assess students on academic writing, are probably the courses where you would like to limit and/or eliminate the use of GenAI the most. Think about what writing skills you wish to teach your students. Some of the writing skills are easily replicable by GenAI, other skills rely heavily on the students'

²¹ Link invoegen naar vastgesteld BETA beleid use of genAI

²² Link invoegen, document breed beschikbaar na 19 november 2024.

perception, interpretation and reasoning, skills that constitute the core of academic education. When assessing academic writing, you may wish to emphasize

7. certain writing skills more, or even decide not to assess some of them at all. See figure 1 for a breakdown of writing skills and their replicability by GenAI²³.

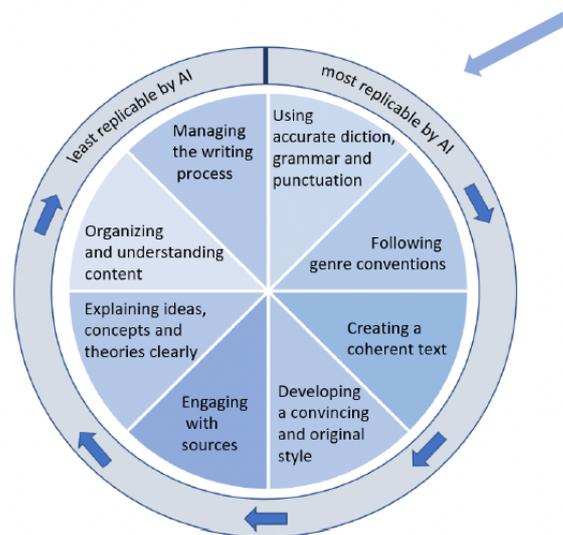


Figure 2 The ALP's writing pie: a breakdown of writing skills

2. Course design

1. When distribution of focus on academic writing skills and use of GenAI has been decided, the course coordinators will design their specific courses, keeping in mind whether the courses only teach and/or formatively assess, or if a summative assessment is needed.
2. When designing the course objectives, consider:
 - Level and type of skills. See also the BETA GenAI Assessment scale, in the BETA policy for use of GenAI²⁴.
 - What forms of assignments and/or (formative) assessment could be used, in line with the course objectives and the course content?
 - What skills are absolutely necessary for the course? Some basic skills might no longer be necessary to be learnt, since there are tools that can do this as well. Of course, sometimes it is necessary to understand the basics behind it, but in other cases, the necessity for such knowledge and skills might have become obsolete.
3. Use active forms of work during lectures, which center around feedback. Any feedback moment may be seen as a form of formative assessment, where the student may use the feedback as a learning opportunity. This may be a 'formal' assessment setting (a quiz or multiple-choice exam to see whether a student is on track), but think also about debates, oral presentations, peer feedback, etc.
4. Always include a statement in the course guide/syllabus stating the bounds of use of GenAI in this specific course and the assessment, always including information on the VU guidelines for use of GenAI and academic integrity. See BETA policy on use of GenAI for example texts, based on current best practices within BETA.
5. In the appendix to this document, a number of possible assignments have been added, to help teachers design meaningful assignments either making use of GenAI, or making sure that it is not possible to use GenAI.

²³ flyer of the Academic Language Programme (ALP) (Help! Can we still assess (through) writing?" → VU education day 2024.

²⁴ Link invoegen naar gepubliceerd BETA beleid.

3. Assessment design

1. The course coordinator/examiner who designs the assessment confers with the course coordinators from the courses where the skill has been practiced, to make sure the assessment adequately reflects the level a student should be able to achieve. This follows the principle of constructive alignment, where learning outcomes, learning activities and assessment are all alignment in order to reach the exit qualifications of the programme.
2. Examine the course objectives and course content and decide what type of assessment would be a good fit:
 - Consider options that are not text-based. Is writing essential to show mastery of the course objectives, keeping in mind that writing assessments are the most prone for abusing GenAI? Or is an alternative form of assessment possible, for example presentation, group work, oral examination, etc. For groups up to 60 students, oral examinations prove to be time efficient.
 - If another assessment type than a written assignment is possible, then only use a writing product as a (short) justification of the choices made in the final product.
 - Emphasize other academic skills than writing (collaboration, argumentation, etc.).
 - Do not give a writing assignment that students can work out through prompts. If this would be the case, you are mostly assessing knowledge and understanding, which may be better assessed using a (multiple choice) examination or other form than writing assessment.
3. Narrow the scope/context of the assessment, for example by using real-life examples from a very specific context (for example, community-based learning assignments which focus in a very specific example in the community, on which GenAI tools will probably not have much data). Generative AI does not work optimally with very context-specific assignments, since this information has not been part of its training.
4. Use reflection on choices made as the assignment, instead of the final result. Thereby focusing on the process and the (mental) choices necessary to arrive at this product instead of assessing the product itself. This could also be part of a writing assignment, in which you ask a student to critique a paper, for example. Generative AI may be able to give an answer to such a prompt, but it would be general and not deeply informed, nor creative.
5. Design assignments in a series of successive phases. Multiple BETA programmes already designed their final project in such a way, where each phase needs a go/no go or other form of feedback to move forward to the next phase. In a regular course, this could be in the form of peer review, oral presentation, group discussion, etc.
6. Do you suspect a student of using GenAI? Currently available AI content detection tools remain highly inaccurate for the time being²⁵. Therefore, think about ways to determine whether the students did the work themselves in case of suspicion. For example, have students explain their work in an oral session to assess whether they have done the work themselves or not. This then does not replace the assessment itself but is an extra check before you hand the case over to the examination committee for fraud.
7. When the course assignment really demands a situation where a student should be entirely excluded from having access to GenAI, consider the assessment method and the assessment environment. In such a case, for example revert to a written assignment on campus, where the student works in an invigilated situation.

²⁵ (Elkhatat et al, 2023).

4. Tips for teachers

The following tips for assessment design have been shared by VU Center for teaching and learning^{26 27}. Since there is so much information available, which can make it hard to find, the tips are included here.

4.1 Tips for *assessment design*

Assessing during the process rather than only the result

Assessing only a finished product is no longer feasible: GenAI can produce that. Assessment must shift to the process. Consider the skills and competencies associated with information search, writing, producing, and creating texts (including content-based texts). These skills need to be recalibrated in higher education. In fact, this should always have been the case, but GenAI enforces this practice.

Enhancing education

With that, organizing the (peer) feedback conversation, doing intermediate and final presentations and questioning students directly about what they have done and learned becomes even more important than before (self-reflection). This may create additional workload, but it will enhance the authenticity, personalization and inclusiveness of education.

Making topics very specific

Another way to deal with AI is to have papers deal with topics that are very specific to students and their own context. For example, problems in the context of Community Service Learning, a business, their neighborhood, their research, their stakeholders, their community organizations, and the like. The more specific the topic, the more difficult it is for GenAI to use its background data for a readable text.

Avoid the possibility altogether

As described before, many skills are assessed more often than necessary to show mastery of the exit qualifications. Change partial examinations that count toward the final grade (summative) to feedback moments (formative assessment). This might be in the same setting (handing in a written assignment), with the chances that students cut corners and use GenAI, therefore foregoing a learning opportunity. As frustrating as this might be for the teacher, a student does have their own responsibility in their education. Choosing to either use or not use learning opportunities, is part of this. Other options for formative assessment are peer review, debate with direct feedback (from peers and teacher), oral presentations, etc.

4.2 Tips for *productively making use of GenAI in education*

Use GenAI as research assistant

Generative AI can exhaustively research a topic in seconds and compile a text for review, along with references for students to check. This material can then serve as the basis for original and carefully referenced student texts.

Use GenAI to produce text on a particular topic for critique

Design assessment tasks with GenAI's produced text as input and then have students make critical annotations of the produced text or suggest improvements. A variation is to have GenAI produce different versions of text on the same topic and then have them compare and evaluate them.

²⁶ <https://vu.nl/en/employee/didactics/how-to-deal-with-chatgpt-as-a-teacher>

²⁷ <https://www.timeshighereducation.com/campus/eight-ways-engage-ai-writers-higher-education> as paraphrased in <https://vu.nl/en/employee/didactics/how-to-deal-with-chatgpt-as-a-teacher>

Use GenAI for routine text, e.g., a poster, blog content or an informational brochure

Have students find out when a GenAI text, human text or hybrid text is appropriate for specific messages and have them justify this method and the result.

Use and assign GenAI for creative text, e.g., poetry

Students can research the multiple programs and algorithms offered to explore differences and most appropriate forms for e.g., poetry, stories etc. But also to research bias, for example. Describe principles and regulations on how students can effectively use the systems and have them keep track of how they use the systems for text production. They should then attach that method and results to a final product, for example (just like analyses of literature should also describe the search strategy). This can also be used formatively in discussion with fellow students and supervisors.

Research and evaluate which different types of GenAI tools are a good fit for your field

How useful can GenAI tools be, for example, to produce text in multiple languages within seconds? Or to create text that is optimized for search engines? Or a text that has optimal knowledge of your field?

Explore how to apply GenAI ethically and appropriately.

Here, discuss how AI can lead to various forms of plagiarism and how this can or should be prevented. Who, and what, is excluded from this material, and thus potentially from the generated text? What assumptions, biases and injustices are embedded in this material, and thus possibly in the generated text?

4.3 Example exercises²⁸

1. Prompt Competition
 - a. Identify a major question or challenge in your field or discipline that ChatGPT could write about. Preferably a question with no clear single right answer.
 - b. Have students collaborate (in pairs or small teams) on developing 5 to 10 criteria for assessing ChatGPT responses to the major question. For example, ChatGPT's output references more than one theoretical perspective.
 - c. Ask students to individually write a prompt for ChatGPT to answer the major question.
 - d. Have students use their criteria to judge the responses of other students (in pairs or small teams) and rate the ChatGPT prompts/responses from best to worst.
2. Reflect and Improve
 - a. Ask students to individually identify a major question or challenge in your field or discipline that ChatGPT could write about.
 - b. Have students use ChatGPT to write a response to their question or challenge.
 - c. Ask students to reflect on ChatGPT's output (e.g., what is correct, incorrect, what they don't know if it is correct or incorrect, what should they look up elsewhere to verify, what should they ask ChatGPT next).
 - d. Using Track Changes in MS Word or Suggesting in Google Docs, have students improve the output of ChatGPT (e.g., correcting errors or misinformation, expanding on shallow content).
 - e. Have students submit their prompt and the improved ChatGPT response with their added content highlighted.
3. Re-vision
 - a. Ask students to individually identify a major question or challenge in your field or discipline that ChatGPT could write about.

²⁸ https://medium.com/@rwatkins_7167/updating-your-course-syllabus-for-chatgpt-965f4b57b003

- b. Have students use ChatGPT to write a response to their question or challenge.
 - c. [George Heard](#) is attributed with saying “The true meaning of the word revision is this: to see again.” Have students revise (write again) ChatGPT's output from a different angle. For instance, take a different perspective, apply a critical lens, expand on a particular concept, or correct aspects of the output that could cause their peers to misunderstand or misinterpret.
4. Dual Assignments
- a. Give students a choice between two versions of the same assignment. One version for those that want to use ChatGPT and one for those who don't.
 - b. For those who choose to use ChatGPT, they have to submit their prompt(s) and the ChatGPT output. Using Track Changes in MS Word or Suggesting in Google Docs, have students add depth, clarify misinformation, offer alternative perspectives, and make other improvements to the ChatGPT output.
 - c. For those who choose to complete the assignment without ChatGPT, they should complete the assignment and sign a statement that ChatGPT was not used.
 - d. Grade both assignments on how well students illustrate their depth of knowledge through either (a) their changes to ChatGPT's output, or (b) their original writing.
5. Mind Maps
- a. Since ChatGPT can't natively make visual representations of content (see note below), have students create mind maps (aka, associative maps, spider map, process maps) to illustrate the connections between ideas, concepts, approaches, or theories in your field or discipline.
 - b. The more details or levels that students add to their mind maps, the easier it will be for them to demonstrate their newly acquired knowledge and skills.
6. Debates
- a. Have students debate a major question or challenge in your field or discipline. Even short debates can deepen learning and get students to look at topics from varied perspectives.
 - b. You can choose if students are allowed to use ChatGPT in their preparation for the debate's opening statements.
 - c. Debates can be done in different [formats](#), and the length of time for speeches can vary depending on how much time and how many students are in your course.
7. Videos or Podcasts
- a. Rather than written essays, have students make videos or audio recordings as the medium for sharing their knowledge.
 - b. Using a video-based tool (such as VoiceThread, FlipGrid, or Zoom) can make the process easier for students.
 - c. Students can also record audio podcasts on their phone or computer if visuals are not required for the content of the assignment.
8. Explain Your Thinking
- a. Give the assignment as usual, but in addition require that students use Using Track Changes in MS Word or Suggesting in Google Docs to explain at least 8 to 10 steps of their thinking as comments added to the text.
 - b. Students can describe, for instance, the steps in their logic, their problem solving or writing process, or the development of their theoretical path.
 - c. Students could also document their thinking with audio recordings or videos.
9. 2x2 Matrix
- a. Have students create a 2x2 matrix relating two concepts covered in the course. For instance, what are shared and different defining characteristics of concepts or processes.
 - b. A simpler version of this assignment is to have students develop Venn Diagrams for comparing important concepts or processes.
10. Next Time

- a. Ask students to use ChatGPT to answer an essay question about a major question or challenge in your field or discipline.
- b. Have students reflect on their learning about the topic based on using ChatGPT, and to write down 5 things they learned about the topic from ChatGPT.
- c. Have students design a new assignment that doesn't allow for the use of ChatGPT but that would allow them (or other students) to demonstrate their learning. For example, they might suggest a group project, or mind map assignment.