



Vision on assessment and examination

Towards an AI-aware assessment
practice

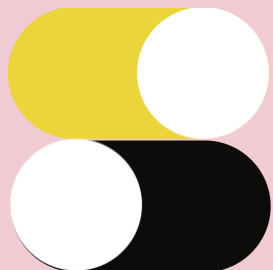
Vision on assessment and examination in the age of AI

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Introduction

The rise of generative artificial intelligence (GenAI, hereinafter AI), which includes tools like ChatGPT, Gemini or DALL-E, is shaking up the entire field of education. Accessible, freely available technology for all is creating unprecedented new opportunities and possibilities for content development and creation. The entire field of education must respond rapidly to these impactful technological advances, especially when it comes to assessment and examination. Where previously, written forms of accountability (reports, assignments, essays) or digital assessment methods were used to assess students' performance, it is now often unclear to what extent AI contributed to those outcomes, raising pertinent questions about authenticity, validity, reliability and the quality of assessment. After all, whose performance are we actually assessing, and how has AI use influenced that? What has the student genuinely learned in that AI-driven learning environment, how and with what level of effort? At the same time, our AI-driven society requires fast-learning, flexible professionals who can deal – both now and in the future – with these technological developments in an ethically responsible, critical and appropriate way.

This entails a major responsibility for educational institutions. On the one hand, these institutions must prepare students by equipping them with knowledge, skills and insights about AI and how to use AI effectively and responsibly within the possibilities and limitations. AI must never jeopardise or undermine students' learning or development. Rather, we strive to harness opportunities and possibilities through appropriate deployment and responsible use. Consider, for example, a wealth of opportunities for authentic assessment, personalisation, scalability and efficiency. Even with the influence of this impactful technology, the functions of assessment and its underlying principles remain as relevant and topical as ever. The aim of education is still to guide students in their development and prepare them for professional practice in various fields and disciplines. Valid and reliable assessments are still needed to establish the quality of learning outcomes and performance when achieving learning objectives, and information and evidence must be collected to provide appropriate support and guidance to each student.

Even if the playing field has remained the same, the rules have certainly changed. This means we will have to revisit assessment and examination with fresh eyes, considering AI's impact on this, the risks this poses to integrity and fairness and the opportunities for innovation and decision-making.

This national vision on AI-aware assessment and examination in vocational education and training, higher professional education and research-oriented education – supplemented with sector-wide practical guides – aims to contribute to this.

We base our analysis on recent scientific and empirical insights, research and developments. The result is an evidence-informed vision on assessment and examination and several guides for implementing AI-aware assessment practices.

Background: education and assessment in an AI-driven society

Generative AI in education. GenAI refers to AI systems that generate new content themselves based on patterns in large datasets. Contemporary examples include large language models (LLMs) such as GPT-4, which formulate human-like responses based on a text prompt. Unlike traditional educational AI (such as automatic marking software), these systems can write entire essays, generate code, design products or solve complex problems. AI is therefore no longer limited to providing practice questions or feedback, but can now perform tasks that were previously reserved for students. This creates a field of tension: how do we ensure student work remains authentic while still using AI for improved learning?

Constructive alignment as a compass. AI compels us to take a critical look at the structure of education and assessment. Constructive alignment – aligning learning objectives, educational activities and assessment – is the underlying principle (Biggs, 1996). In fact, it serves as a compass in this vision, guiding the integration of AI in assessment and examination. When designing assessment practices, we base our approach on classical assessment theories (Black & Wiliam, 1998) to answer questions such as: Are we measuring what we intend to measure – despite or because of the use of AI – and how can we make this visible? This is only possible by explicitly defining what students need to learn and demonstrate, thus enabling informed decisions on when the use of AI is or is not appropriate in the learning process and the intended outcome (Chan & Colloton, 2024). From an assessment perspective, the key question is always: “What do we want the student to demonstrate?” In some cases, we want students to demonstrate certain knowledge and skills without using AI. In other cases, we want to allow or even encourage the use of AI to gain insights into skills such as critical reasoning and judgement. What remains crucial is that the learning process is the responsibility of the student who needs to develop, and that assessment is never fully delegated to AI systems without human oversight. This view is in line with international opinions and research (Liu et al., 2023; Lodge et al., 2023a), which state that AI is here to stay. We must therefore critically examine our educational offerings and, where required, rigorously redesign them to keep assessment relevant and fair.

AI literacy and self-regulation strategies. Students will encounter AI both in their personal lives and in their future professional careers. This means they need to develop essential skills to be able to live, learn and work **with** and **in** an AI-driven society. This set of skills is referred to as AI literacy (Ng et al., 2021).

Although the terminology used varies between education sectors (from learning outcomes, core tasks and work processes to final attainment levels and competencies), it is clear that learning objectives must, in view of AI literacy, be expanded across all sectors of tertiary education in the Netherlands. Consider new or refined objectives such as: *“The student can use AI tools effectively and responsibly to obtain information and improve outcomes”* or *“The student can demonstrate how they critically evaluate AI output for accuracy and bias.”* Embedding ethical competencies in assessment practice is equally important. For example, *“The student understands the ethical implications and risks of AI use in scenario X”*.

Making these learning objectives explicit legitimises subsequent adaptations in education and assessment to achieve these objectives. Additionally, special attention should be paid to self-regulation strategies, especially in AI-driven learning environments. Students must learn to steer and optimise their learning processes in an AI-assisted learning context. They must be aware of **which** tasks can be performed by AI and **which** ones they must continue to perform so as not to undermine the learning process. They must also have a good understanding of how AI can help bridge the gap between their current level and what they aim to achieve. For teaching staff, this means they must also develop insight into students' levels and development in AI-driven environments. In these contexts, learning processes are often non-linear and are not necessarily structured according to traditional educational principles. This makes it even more challenging to obtain a clear picture of the learning processes that students have undergone, and how they have acquired knowledge and skills – through their own efforts, in collaboration with AI or fully or partially outsourced to AI. Learning to work with AI in order to progress – without delegating essential tasks in a way that undermines the learning process – is a necessary balance. This balance prepares students for the real world, where sometimes they must manage **without** technology and, at other times, they must work smartly **with** technology to achieve the intended outcomes. Developing critical thinking skills and responsible use of AI are pivotal in this respect (Lodge et al., 2023b).

Redesigning curriculum & assessment

In order to maintain constructive alignment, the AI transition requires adjustments in all areas: learning objectives, learning activities and assessment methods. The central aim of these innovations is for the credibility and relevance of assessment to remain intact. After all, a diploma loses its value if it is not clear whether a graduate genuinely possesses the intended competencies and has mastered the required key skills. We therefore adapt assessment functions and methods where required to maintain the distinction between what a student knows and can do as opposed to what a tool has produced. This demands additional efforts in designing assessments, but it enhances their validity and provides the opportunity to focus assessment on the learning process and not only on the end product. Thus, the emphasis shifts away from combating fraud towards fostering authentic evidence of competence.

The ultimate goal is to maintain the quality, credibility and relevance of assessment. This requires, at the very least, attention to be paid to the following aspects.

Adjusting learning objectives. As noted previously, study programmes will need to revise and broaden their learning objectives to reflect the changing professional field, thus equipping students with the AI skills needed both within that field and beyond it. For example, a traditional learning objective like *“The student can write a business letter in English”* may become *“The student can draft a business letter and edit it for accuracy and tone with the help of AI.”* The latter not only demands proficiency in English but also the ability to evaluate and refine AI-generated suggestions, which is a new dimension of competency. By refining existing objectives and adding new ones, it becomes clear what is expected of students in an AI-rich context. This lays the foundation for aligning educational activities and assessments with these new expectations.

Future-oriented educational activities. Teaching staff are already actively experimenting with AI-integrated educational activities and teaching formats. For instance, learning to use AI as a feedback partner. Students may use ChatGPT to create an initial draft of a report, action plan or paper, and then discuss in groups what is correct or incorrect. This helps them to think critically about both the content *and* the contributions of AI. In practicals, teaching staff may ask students to verify and correct an AI-generated data analysis. This is an exercise in precise, analytical thinking with AI as a sparring partner or assistant. At the same time, teaching staff purposely develop activities without AI to reinforce fundamental knowledge and skills, followed by assignments with AI to apply that knowledge and those skills at a higher level. This variety prepares students for professional practice: sometimes, they must manage without technological support, while at other times, they must collaborate intelligently with AI tools to achieve a better result.

Revising assessment methods. Perhaps the greatest challenge is critical evaluation of existing assessment practices. Many familiar assessment methods, such as written assignments, take-home assignments and other methods without direct supervision, have now become vulnerable to improper use of AI. A student can now use an AI model to generate all (or parts of) their answers or submissions. Although this does not mean that all unsupervised assessment methods should no longer be used, it does mean we must critically review and adapt them where necessary. After all, we need to be transparent about **who** achieved the demonstrated learning outcome. Are we currently assessing student output without AI, in collaboration with AI, or fully (and/or partly) by AI? And, considering the intended learning objectives, is that desirable or appropriate? These insights are essential for adapting assessment methods where necessary and to prevent AI from taking over or undermining the learning process undesirably.

The aim is not to make assessment fully “AI-proof”; the aim is to maintain, strengthen and safeguard the quality of education and assessment by integrating **AI-aware assessment programmes**. A number of strategies already being implemented, such as:

- **Oral exams and presentations:** By administering oral exams or having students give presentations (where necessary), teaching staff can directly assess the student’s thought process and individual insights. This makes it considerably more difficult to pass off AI-generated knowledge as one’s own work or input.
- **Open-book and open-web exams:** Here, the use of sources – including AI – is allowed, but exam questions focus on insight and application of knowledge, which cannot simply be looked up or generated online. The student may be required to analyse a case study or solve a problem where comprehension and creativity are needed, for example. These are assignments for which AI cannot provide ready-made answers.
- **Process documentation:** Require students to submit interim products, version iterations or logbooks. This shows **how** the final output was developed and whether they used AI as a tool. Students must, through reflections, account for the steps they took themselves and which assistance, if any, was provided by AI. This approach highlights the learning process above the final result.
- **Authentic assignments:** Design assessment assignments that closely reflect real-life or professional practice so that a standard AI response is insufficient. If an assignment is personal, relevant and complex (for example, a practical case study, a design problem or a research proposal), students really do have to demonstrate their own understanding, insight, application and creativity. Not only does this increase the validity of the assessment, it also makes it more meaningful for students; it becomes an opportunity to learn rather than merely to perform.
- There is also growing attention for alternative evaluation methods, such as peer assessment (other students as co-assessors), AI-driven simulations that create realistic professional scenarios and data-informed assessments (continuous performance monitoring through data analysis). AI can assist in these approaches, for example by providing suggestions or recognising patterns, but human judgement remains essential to account for context and individual differences.

The central aim of these innovations is for the credibility and relevance of assessment to remain intact. After all, a diploma loses its value if it is not clear whether a graduate genuinely possesses the intended competencies and has mastered the required key skills. We therefore adapt assessment methods where required to maintain the distinction between what a student knows and can do as opposed to what a tool has produced. This demands additional efforts in designing assessments, but it enhances their validity and provides the opportunity to focus assessment on the learning process and not only on the end product. Thus, the emphasis shifts away from combating fraud towards fostering authentic evidence of competence.

Opportunities and possibilities

Where AI is used purposefully, there are significant opportunities to enrich learning and improve assessment. Recent research confirms that AI has transformative potential for education: a systematic review by Lyanda et al. (2024) concludes that AI tools increase the effectiveness of instruction, improve learning outcomes and make assessment processes more efficient. Some concrete benefits and applications are:

Personalisation & feedback: AI can serve as a personal assistant that provides students with immediate feedback and helps them practise subject matter tailored to their needs. For example, an AI tutor can answer questions on demand or provide additional explanations for difficult topics. AI can also provide detailed formative feedback on draft answers or submissions. A student could, for instance, submit a first version of an essay to AI for feedback on structure, sentence formation or argumentation, and then incorporate the feedback before submitting a revised version. To ensure it is the *student* doing the learning, it must be agreed in advance **how** and in **which** forms AI use is acceptable. Research suggests that such rapid feedback loops encourage students to go through more versions and ultimately deliver higher-quality work (Katsamakakis et al., 2024). This accelerates the learning cycle and enhances the quality of learning. Moreover, this provides teaching staff with new ways to monitor students’ learning processes in AI-driven environments. At the same time it is, of course, undesirable for a student to submit a fully AI-generated report as their own work. Not only does delegating writing tasks undermine the development of writing skills, it also means that teaching staff are, in effect, assessing the tool rather than the individual student. It is therefore important to make transparent and traceable how AI has supported or enhanced the student’s progress and performance. In the case of assessing written work, for example, it is not just the final product that is being assessed but also the student’s ability to use AI correctly and responsibly.

Adaptive & authentic learning environments: AI makes it possible to create realistic simulations and practice scenarios that were previously too complex or too costly (Caukin et al., 2023). Furthermore, adaptive AI systems can contribute to developing both cognitive and metacognitive skills and the reflective practices of students (Fawns & Schuwirth, 2024). Take healthcare programmes, for instance, where virtual, AI-driven patient scenarios can be simulated and students can practise diagnosis and treatment procedures. In these environments, students are assessed on their insights, diagnoses and actions. And because of AI’s responsive character, ever more complex cases or scenarios can be generated based on the student’s prior actions. Simulated professional situations and intelligent, adaptive tutoring systems thus offer numerous possibilities to bridge theory and practice and enable innovative, richly informed assessment (Van der Graaf et al., 2023).

This adds a new dimension to proven concepts such as modelling, scaffolding and knowledge articulation (Garrison et al., 2000; Collins et al., 1989).

Applying complex skills: Research shows that advanced AI tools are particularly effective in domains where complex decision-making, application of theoretical knowledge in practice and development of effective learning strategies are key (Kasneci et al., 2023; Pierre, 2023). For example, academic students can now analyse much larger datasets than ever before using AI, as AI can take over the time-consuming task of processing raw data. This means that students can spend more time on analysing and interpreting the data and on critical reasoning, with AI serving as an effective and efficient “accelerator” of the learning process.

Data-driven detection & decision-making: AI can use data analysis to detect patterns that provide (early) warning signs for any required support or adjustments to learning processes, as well as inform decisions on the quality of learning and outcomes (Owan et al., 2023). This can offer new insights to both teaching staff and students. For example, AI tools can detect whether certain assessment questions contain construction flaws, as evidenced by consistently low scores among the same group of students.

This signals to teaching staff that a question should be reviewed, thus improving the fairness of assessment. Student performance can also be continuously monitored to promptly identify which students are at risk of dropping out. In this way, AI contributes to early warning and targeted, timely guidance for students at risk of dropping out.

In short, AI can assist with, personalise, enrich and streamline the learning process. At the same time, effective learning **with** and **through** the use of AI places several important demands on students (Fawns & Schuwirth, 2024; Lodge et al., 2023b):

- **Robust knowledge base:** A well-developed foundation of prior knowledge is essential to properly appraise new information generated by AI, both in terms of quantity and quality of knowledge.
- **Critical thinking skills:** Students must develop sound judgement and understanding (common sense) to assess the credibility of AI-generated information.
- **Self-directed learning behaviour:** Whereas current curricula are often designed from an educational perspective and offered in a pre-structured format, AI-assisted learning processes require a high degree of self-direction and access to effective learning strategies.
- **Cognitive strategies:** Students must be able to manage their own cognitive load, as AI platforms do not provide the carefully constructed didactic structure typical of traditional forms of learning.

When developing AI literacy, students will also need to consider the pedagogical and didactic implications of AI use. (Tsai et al., 2023). This means that students should critically reflect on the support AI provides and what they want or need to use: what have they learned thanks to AI, and what do they still need to accomplish without it? Only then does AI serve the learning process and learning outcomes.

Risks: fraud, validity and ethics

Alongside many opportunities, AI also brings serious risks and points of concern into the context of assessment. Here are the main ones:

Fraud & ownership: The most significant concern is that students might misuse AI to obtain results without actually mastering the underlying knowledge or skills themselves (Dempere et al., 2023). If AI generates content (such as code or a written piece) for a student, whose achievement is actually being measured? Teaching staff observe that it is increasingly difficult to determine whether submitted work is entirely the student's own efforts or if it is partly produced by AI. Traditional fraud detection tools fall short, and new AI-detection tools are not yet fully reliable (Dempere et al., 2023). For instance, a tool like Turnitin can report a high percentage of “AI-generated” content, but this alone does not constitute conclusive evidence of cheating (Gosselin, 2025). There is a risk of unjustified accusations or that clever fraudsters go undetected. The guiding principle here is: “Suspensions of AI involvement require human investigation and oversight.” Any suspicion based on a detection tool must **always** be followed by careful human assessment (including hearing both sides), for instance by orally questioning the student about their work. Examination boards can play an advisory and signalling role towards teaching staff and management in this respect (Chan, 2023; Vargas-Murillo, 2023).

Validity & reliability: If it is possible for AI to be used in a way that cannot be controlled or checked, the validity of certain assessment methods comes into question – are we still measuring what we intend to measure? A student may be able to submit a perfect report thanks to AI assistance, but it still remains unclear whether they actually possess the intended competencies. Assessments must therefore be reviewed or redesigned to ensure that an individual student's capabilities continue to be recognisable, even if AI is used. Later on in life, moreover, students must be able to practise their profession without AI where required; an assessment programme must contain reliable moments that allow this to be demonstrated. Sometimes this requires stricter conditions, such as proctoring during written exams or extra oral checks. At the same time, integrating AI into assignments offers opportunities to gather better evidence of complex skills, which can actually increase validity if we approach this correctly (consider for instance authentic professional assignments, portfolios, etc.). Nonetheless, it remains a balancing act (Curtis, 2025; Eaton, 2023).

Legal and ethical issues: AI systems may contain inherent biases or generate inappropriate content. Therefore, it is irresponsible for AI to make decisions about students in assessment without oversight (Unesco, 2025). For example, AI must never autonomously decide whether a student passes or fails; human oversight is essential (see also the AI Act). Students must also learn that AI-generated information can contain errors and that without critical thinking, AI may mislead them. Education must cultivate a culture of purposeful, ethical and responsible use of AI, in accordance with applicable laws and regulations (AI Act, EU 2025), by clarifying which forms of AI use are permitted or prohibited and why. Furthermore, we must be mindful of equity: not every student has equal access to AI or the same level of proficiency in its use (Chng, 2023). International students, for example, may rely more heavily on AI translation tools due to language barriers. This should not unjustly advantage or disadvantage them (Tsai et al., 2023). Clear and fair agreements are needed to maintain a level playing field. This also demands transparency from teaching staff: if AI is used (e.g. for grading or study advice), students have the right to know when and how this happens (Perkins, 2023).

Privacy & data security: Many AI tools (such as ChatGPT) are cloud-based and collect the data entered. When students use such tools, for example by entering assignment texts or data into them, this may conflict with privacy legislation (GDPR) and confidentiality agreements. Educational institutions must develop policies for this: which tools can be used and how will students' data be protected? Ideally, secure, institution-specific AI applications are used or clear contractual agreements are made with suppliers so that data cannot be exposed. Privacy is a precondition – AI may not support learning in a way that undermines the protection of personal data.

In summary, the impact of AI on our society compels us to view education and common assessment practices from a fresh perspective. Simply prohibiting AI is not the solution, as this ignores reality and denies students valuable learning opportunities. Instead, we must establish frameworks that allow us to set boundaries, to determine instances of fraud and to limit undesirable use. In the next section, we describe an approach to structuring that balance.

Revising assessment: *The Two-Lane Approach*

Designing assessment and examination in an educational landscape where AI use is possible for all is indeed a complex challenge. AI's disruptive impact on education presents a dual challenge: we must integrate AI responsibly in assessment and examination by providing the support needed in AI-driven learning environments while maintaining critical oversight on decisions about learning outcomes. Regardless of technological advances, **constructive alignment** remains the foundation for a well-balanced curriculum design. Learning objectives, educational activities and assessment should ideally be designed in a coherent manner, in alignment with the institution's vision on education and assessment. The integration of AI into educational design brings a new dimension to this (Perkins et al., 2023). This holistic approach ensures coherence and continuity in learning pathways instead of isolated components and provides a consistent learning experience and education quality (Boud et al., 2023; Whitfield & Harvey, 2019), even when AI is fully integrated in the curriculum. After all, AI interfaces with all three components (learning objectives, activities, assessments). Education designers often use "backward design" for curriculum development (Wiggins & McTighe, 2005). Design starts with the final attainment level; the point at which all learning objectives are achieved and the student is equipped with the knowledge and skills necessary to graduate as a competent professional. The vital question brought into focus by AI's growing influence on education and assessment is: *What exactly are we educating for now that AI is playing an increasingly significant role in our professional and personal lives, and how does this affect the profession and the associated knowledge, skills and attitudes?*

The content of these intended learning objectives (in the form of learning outcomes or final attainment levels) varies across education providers in terms of knowledge and application level, discipline and occupational profile, and must be meticulously aligned in consultation with the professional field. The rise of AI is leading to changing professions and the need for new knowledge and skills, which affects existing learning objectives. In many cases, both adjustment and expansion of existing and new learning objectives are required. For students to be able to achieve these new learning objectives, education and assessment must be aligned accordingly. There are various innovative possibilities to design AI-driven educational activities, and the same applies to assessment (Mollick & Mollick, 2023). However, AI should be used as a means to support and enhance educational offerings – not as a substitute for learning and learning outcomes. AI therefore needs to be integrated consciously and responsibly into the foundation of educational design.

Designing and structuring a well-considered assessment programme is complex, and the impact of AI as an additional factor has made existing challenges even more explicit.

Ideally, assessment contributes to two objectives – supporting and strengthening the student's learning process (formative assessment) and taking valid, transparent and reliable decisions about the student's learning outcomes (summative assessment) (Mollick & Mollick, 2024). A promising approach for integrating AI into existing assessment programmes is the Two-Lane approach. This framework, based on international educational practices and research (Liu et al., 2023; TEQ, SA, 2023; Lodge et al., 2023) and established assessment theories (Black & Wiliam, 2009), provides a foundation for purposeful, appropriate and ethically responsible integration of AI into assessment. The Two-Lane approach rests on two fundamental principles. *The first principle* is that AI has become part and parcel of society, which means that our aim should be to teach students to use AI consciously, correctly and responsibly to prepare them for this societal reality. *The second principle* is that this may not be at the expense of the quality of education and assessment, and hence of diploma and qualification value and skills-readiness for practice. Drawing on these principles, the Two-Lane approach sets out two pathways with approaches proposed to support, improve and/or design AI integration in assessment in a well-considered and reasoned manner. All this based on assessment functions, aligned with intended learning outcomes and with retention of education and assessment quality.

Lane 1: Assessment of learning Assessment in Lane 1 focuses on determining the quality of student learning and outcomes in relation to the learning objectives, based on valid and reliable data-informed decision-making. This type of assessment takes place under controlled conditions and supervision, and AI use is either not permitted or only permitted to a limited degree. AI may only be used if the learning objectives require it **and** the student's individual contribution is directly controllable and traceable. This ensures that reliable, valid decisions can be made regarding the demonstrated performance and the student's individual efforts. But it also ensures that it can be determined with sufficient certainty **whether**, and to what extent, the student has independently mastered certain critical knowledge and skills – either without direct or indirect AI assistance or with conscious and directly traceable use of AI aligned with the learning objectives. Consider assessment methods designed so that AI has no influence on the performance being measured, such as traditional exams with proctoring, oral examinations, practical skills assessments or observations.

If AI is permitted in this summative assessment of the quality of learning and/or results of a student, it must be clear in advance how and under what conditions AI will be used. It must also be established how validity, reliability and measurability of the results will be safeguarded. Examples of AI use in Lane 1 include AI-driven simulations in which an examiner determines, in a semi-authentic context based on observations, whether and to what extent the student has acquired the desired proficiency in the intended knowledge and skills. For example, performing complex medical procedures. For example, performing complex medical procedures or complex skills/competencies in simulated challenging contexts or exceptional circumstances (such as demonstrating customer care in the hotel industry when dealing with a demanding guest).

Another example is adaptive assessment, where AI analyses the student's responses during the assessment and dynamically adjusts the difficulty of subsequent questions. **Irrespective** of permitted or prohibited AI use in Lane 1 assessment: this assessment requires validity and reliability in controlled settings so that the quality of the demonstrated output in relation to the intended learning objectives, and the effort made by the student in this regard, can be determined objectively and with integrity.

Lane 2: Assessment for & as Learning: Assessment in Lane 2 focuses on making student learning visible and optimising it throughout the learning process, as well as on the outcomes in relation to the learning objectives. This type of assessment serves as a **starting point** or a means of **steering** the learning process. Assessment in Lane 2 focuses on data-informed support, adjustment and reinforcement of learning processes and providing direction in achieving the intended learning outcomes. In this lane, the use of AI is permitted, desirable, or even mandatory (depending on the learning objectives, and within legal frameworks and possibilities). The emphasis is on learning with, through and in collaboration with AI. This type of assessment focuses explicitly on the skills and insights needed for critical, ethical and correct use of AI. With this approach, students must demonstrate **when** and **how** they used AI and how it contributed to their learning process and results. The quality of this AI-integrated learning approach is taken into account in the final assessment. Assessment in Lane 2 has an **open** character, since assessment assignments do not necessarily take place under supervision or are not fully controllable. Consider, for instance, the use of AI in writing assignments, design assignments or gathering evidence for portfolios. Assessment in this lane prepares students for situations where AI use is desirable or unavoidable and encourages them to work with AI in a proper and responsible manner. AI is used to support and enhance processes and outcomes. Critical reflection and accountability for the learning process weigh heavily in this type of assessment. For instance, it must be made transparent **which** AI tools have been used and **how** AI-generated output and feedback have been processed. This makes learning visible and optimally develops critical reasoning, problem-solving ability, creativity and AI literacy in authentic contexts.



An approach for effective, responsible and appropriate AI integration in assessment practices

	Lane 1	Lane 2
Function of assessment	Valid, reliable quality measurement to determine whether and to what extent the individual student has achieved the intended learning outcomes, on the basis of demonstrated output, with consequences for student progress.	Cyclical, development-oriented assessment in which evidence is gathered (during or at the start of the process) about the student's development in relation to the learning objectives; teaching staff, students and peers use this information to support, adjust and reinforce their own learning process and ownership of the intended learning outcomes.
Degree of supervision and control	Assessment takes place under direct supervision of an examiner. In principle, this is individual and controllable – the student performance is authentic and was produced by the student themselves.	Assessment takes place without direct supervision of an examiner. It may be carried out individually and/or collaboratively, and the student performance is not fully verifiable at the level of the individual student.
Role of AI	Depending on the intended learning outcomes, AI use may be limited or excluded (for example, deliberately exclusively in assignments where the student must demonstrate skills without AI, or limited in cases where correct AI use itself is being assessed).	Depending on the intended learning outcomes, AI use may be permitted or even required (for example, to teach students responsible AI use and encourage it where it adds value).
Examples	Traditional exams (with proctoring), oral examinations (viva voce), practical skills tests or simultaneous in-class observations where AI is not or hardly usable.	Using AI to prompt reflection, conduct critical analyses based on AI output, generate new perspectives and brainstorm in collaboration with AI, suggest structures or lines of reasoning, summarise literature, to act as a feedback partner – all serve to strengthen the learning process.

Coherence & demarcation: The strength of the Two-Lane Approach lies in the deliberate and reasoned integration of AI applications, and in students' (acquired) responsible and correct use of these applications throughout their studies. It contributes to an AI-aware assessment practice that is aligned with educational activities and learning objectives. Students do not need to explicitly experience this two-lane division; it is the responsibility of the design team to ensure coherence and continuity in the approach.

Every assessment programme should ideally include both Lane 1 and Lane 2 assessment for each learning pathway, educational unit or course (Liu & Bridgeman, 2023), in a logical sequence and alternation. The two lanes complement each other and ensure constructive alignment within the overall educational offerings (Curtis, 2025).

Critical learning objectives are safeguarded in the first lane, thus ensuring the value of the diploma, while assessment in the second lane ensures that students are prepared for professional practice where AI use is a reality.

In fact, existing assessment programmes already incorporate various assessment functions – balanced and well-founded – that are aligned with educational activities and learning objectives. The Two-Lane approach supports the integration of AI into this already well-considered range of assessments, while making clear where assessment requires adjustment or revision when an existing assessment method is no longer suited to the intended function. This means that for each assessment, the following explicit question must be asked: What is the purpose of this assessment, and how does AI use relate to that purpose? Once this is clear for each assessment, we can determine whether it falls in Lane 1 or Lane 2 (or a combination of the two), and design the required conditions and support accordingly.

Why is this approach valuable? The Two-Lane approach ensures that **integrity** and **innovation** go hand in hand. Students learn to make optimal use of AI applications based on responsible, appropriate use, while the reliability and quality of assessment and final attainment level are assured. Rather than ignoring or prohibiting AI, the technology is embraced in a controlled way wherever it enhances the learning process. At the same time, inappropriate or unauthorised use is minimised wherever AI threatens to undermine learning or evidence of learning. In this way, students acquire professional competence but also greater understanding of **when** and **how** to use AI tools responsibly. These skills are crucial in an AI-driven world. This ensures that the diploma retains its value as evidence of achieving the final attainment level – graduates have, on multiple occasions, demonstrated proficiency in the key skills themselves.

The Two-Lane Approach can be applied in every educational sector, though the implications for assessment programmes will vary according to context, with context-specific and programme-specific choices as starting points. In vocational education and training, for example, with AI integration into assessment programmes in **Lane 1**, it is primarily qualifying aptitude tests that will be subject to supervision, while **Lane 2** assessments can feature workplace assignments in which AI tools are part of the work process. In higher professional education and research-oriented education, Lane 1 assessments may consist of written exams, oral exams or observed practicals, and Lane 2 assessments may consist of project-based work or research activities with the use of AI. The principle remains the same:



“Teach with and about AI, but assess fundamental understanding.” By taking this two-lane approach, educational institutions can give shape to future-focused assessment without compromising fairness and validity while aligning with future careers/disciplines and covering all learning objectives.

Examples of applications: Suppose a Communications study programme sets the following learning objective: “The student can analyse and improve a marketing strategy.” On the basis of Lane 2 assessment assignments, the student receives a complex case for which they must, with the assistance of AI, improve a marketing plan. AI might generate a first draft, after which the student critically reviews and improves the plan. The teacher supervises this process and factors in the quality of the student’s approach when making the final assessment. In this way, the student learns to use AI applications and to think critically in an authentic setting. This is followed by an assessment based on Lane 1 principles, such as an individual oral exam or a closed-book test where the student, without AI assistance, answers questions about marketing strategies and their choices to verify that they have truly grasped the underlying knowledge and insights. This way, the two lanes complement each other: the student uses AI to improve a marketing plan and then demonstrates without AI that they conceptually understand and can apply the subject matter independently. Another example is to have students work on part of a thesis with the help of AI (such as a literature search using a tool like Elicit) but have as an additional requirement that they describe transparently (in the methods section) how they used AI and what work they did themselves. During the assessment, the examiner can then check whether the student understands the material without the use of any tools by means of an additional interview or in-depth questions.

Design principles: When redesigning assessment programmes that intentionally integrate AI according to this approach, programme teams and curriculum developers consider, for each learning objective: “Can or may the student demonstrate learning objectives and outputs achieved in collaboration with AI, or should the student also be able to do so without AI?” A useful guideline here is: If a learning objective can be assessed fairly, transparently and reliably with AI, design a robust assessment using the Lane 2 approach. If the use of AI should **not** influence reliable decisions about quality and control, an assessment method that is either AI-restricted or AI-free must be designed for that learning objective. This assessment must be administered in a controlled environment and under supervision.

In situations where weighty decisions must be made about a student’s level of attainment and performance in relation to multiple learning objectives based on a holistic assessment, for example in portfolio assessment, it is crucial to ensure that the compiled set of evidence consists of information and data (where AI has been permitted and/or excluded) from both lanes, with clarity about the assessment criteria and assessment method. Only in this way can valid and reliable assessment decisions be made.

Avoiding “grey areas” is important; for every assessment it must be clear, for students as well as teaching staff, what is required and whether and how the assessment measures what it intends to measure. A matrix or assessment folder can help ensure all essential learning objectives are covered in the desired manner, without gaps.

AI-aware assessment. The Two-Lane Approach facilitates AI integration in assessment programmes and thus contributes to AI-aware assessment by using AI to enhance students’ capabilities, not to replace assignments. Under no circumstances may the use of AI fully replace evidence of having attained the learning objectives or final attainment levels. This framework is thus in line with widely held international views that assessment should be both AI-aware (ensuring the quality and robustness of assessment despite and thanks to AI) and encourage students to develop relevant knowledge and skills using AI collaboratively (TEQSA, 2023). The strength of this approach lies in combining both perspectives. Of course, this approach has to be communicated clearly to students: they must understand why certain assessment methods are more strictly monitored for AI use or even “AI-free” as opposed to other open assessment methods where AI use is allowed or even required. After all, all these assessment methods contribute to their learning process. Teaching staff will also need to adapt to designing AI-integrated assessment programmes according to this Two-Lane Approach, where cooperation and coordination within the teaching team are vital for maintaining consistency and quality. In brief, the Two-Lane approach embraces the maxim: *“Learn with and about AI, but assess essential understanding”*. In practical terms, this means excluding AI where necessary and integrating AI in learning and assessment wherever possible or desirable. Not only does this keep the focus on student development, it also maintains the quality of education and assessment and teaches students to navigate an AI-driven world rather than circumvent it.

Sectoral perspectives

All education sectors share generic factors in assessment and examination. However, there are also sector-specific requirements, needs and points of emphasis. Some key considerations here are:

Vocational education and training: Vocational education and training is practice-oriented and based on extensive involvement in the professional field. Assessment in vocational education and training mainly includes – alongside language and numeracy tests – assessments designed to demonstrate proficiency in core tasks and work processes of the (future) profession in authentic or simulated working environments. AI can be used in vocational education and training to make simulations of work situations more realistic or to help students in practising specific tasks. It is important that these students learn to use AI tools that are commonly used in their field of work (such as AI-assisted welding equipment, design software or translation tools), so that they receive training geared to the labour market.

At the same time, teaching staff, workplace trainers and apprentice trainers must **clearly indicate the boundaries**: an apprentice carpenter must, for example, be able to independently calculate a construction without AI, but may use AI afterwards to explore alternative designs. Where necessary, the qualification file (the recorded core tasks and work processes) will need to be supplemented with AI skills so that it is clear that these are part of the professional competence of the newly-qualified professional. Collaboration with the professional field is crucial in this regard: companies can indicate which AI competencies they expect from interns and new entrants, and vocational education institutions can adapt their assessments accordingly. **Authentic assessment methods** – such as aptitude tests and practical exams – remain the cornerstone, with AI used as a tool to increase the complexity or realism of assignments.

Higher professional education: Higher professional education offers vocation-oriented programmes that prepare students through practice-oriented and theoretical educational offerings in close collaboration with their future professional practice. Students develop comprehension and insight both in the educational institution and in the professional field. They work, with an increasing degree of independence, in larger educational units on developing and understanding various learning outcomes. AI offers opportunities to develop **and assess** these learning outcomes in different contexts. Students may, for instance, be given complex assignments within project groups where they use AI as a “team member” for specific tasks (information seeking, initial analytics). The group then evaluates the result and further refines it. In this way, they learn to use AI in authentic contexts and develop skills such as critical reasoning, which are necessary for effective and appropriate use of AI. Across all degree programmes and professions – be it journalism or healthcare – transparency regarding AI use and responsibility for one’s own learning process, as well as quality of the final result, are essential. Npuls.

Assessment in higher professional education will therefore not only evaluate the final product in terms of level and quality, but also consider **how** the student arrived at that final product. Think of assessment criteria where process and reflection are taken into account: has the student used the available tools responsibly and effectively?

An example from practice features a lecturer who asked students to design a prototype in collaboration with AI. The tool generated a rough version based on their input, which the students then refined and improved themselves. Collaborating with AI in this way required them to clearly formulate their ideas, consider content and process guidelines **and** critically examine the AI output. This led to a rich learning process with discussion, reflection and interim evaluations. Such experiences prepare higher professional education students for a professional reality that includes AI. AI is a means to achieve goals, but human agency is always required.

Research-oriented education: In research-oriented education, the focus is on knowledge development and creation and on academic integrity. Students are trained to become critical thinkers who can independently process complex information, generate insights and reason logically within various academic disciplines. The message is clear: AI is a powerful tool, but it is the **student's** learning and thinking that are key in education. In practice, this means students can be encouraged to use AI for literature research, data analysis or conceptualising knowledge – **but** always with the student controlling the process. Depending on the learning objectives, AI-driven assessment can be used to gain insight into how students support and strengthen their learning process using AI in an ethically responsible manner, in line with the objectives. Theses and research projects can include AI-assisted steps, but the student must explain **how** and **why** AI was used. The methods section, for instance, may state how AI tools were used, allowing an examiner to assess whether this was done responsibly. In case of doubt, an oral defence can clarify whether the student truly grasps the material. There will, of course, also be summative assessments where AI may not influence the outcome, so that the student's individual knowledge and skills can be assessed. Well-considered choices based on insight into (interdisciplinary) learning pathways, areas of focus and coverage of learning outcomes are therefore also important in this respect.

Peer reviews and feedback processes also contribute to this, for example through multiple feedback moments during the thesis, so that the learning process can be monitored and any AI contributions can be discussed in a timely manner. Fair conditions are also taken into consideration. For instance, international students using AI to overcome language barriers should not have an unfair advantage or be disadvantaged. Universities establish internal guidelines for clarity on what is and is not permitted.

Academic students must learn how AI tools can augment **or** accelerate their capabilities, but also where human input is irreplaceable.

Assessment is designed accordingly: critical reasoning and thinking skills, originality and methodological rigour on the part of the student are paramount, with AI serving as an assistant at best.

Overarching principles. Despite these differences, all sectors apply the same key principles in the age of AI: clarity about expectations, focus on authentic evidence of competencies and mastery of core tasks and work processes, and combining trust in students (giving them space to work with AI) with control where necessary (critical checkpoints without AI). In each sector, examination boards play a pivotal role in safeguarding this balance.

Ethical frameworks and policy: preconditions

To integrate AI into assessment in a responsible manner, educational institutions must address ethical, legal and quality issues. In the following section we discuss the most important frameworks and preconditions.

Ethical frameworks & AI Act Integrating AI into education raises a number of ethical considerations: How do we keep education human-centred? How do we avoid delegating decisions unjustly to machines? Transparency is key in addressing these ethical issues. Students have the right to know when and how AI plays a role in their education and assessment, while also needing to be honest about their own AI use. The European AI Act will likely establish safeguards for this (European Commission, 2023). In the current proposal, AI applications in education are designated high risk, which means that strict standards will apply to transparency, human oversight (human-in-the-loop) and safety (European Commission, 2023). It is wise for institutions to anticipate this by already applying the principle that any AI use must be traceable and explicable, and that it is always a human who bears final responsibility and makes decisions. National legislation and guidelines – such as the GDPR for privacy or copyright law for AI-generated material – also remain in full force. In short, introducing AI does not exempt us from existing obligations like equal treatment, privacy protection and a duty of care. On the contrary, it brings new obligations to safeguard these in a digital context.

Role of examination boards. Examination boards play a pivotal role in monitoring the quality and legitimacy^a of examinations. They are responsible for operationalising institutional policy on AI in assessment and monitoring compliance.

^a Please note: in vocational education and training, the examination board focuses solely on overseeing assessment quality and the legality of examinations as defined in the Dutch Adult and Vocational Education Act (*WEB*). Where this section refers to assessments or exams, it means central examinations in vocational education and training schools.

Actions for examination boards include: 1) drafting rules and guidelines, 2) communicating and overseeing quality assurance, 3) handling cases of fraud, 4) providing advice on established guidelines and sharing best practices, 5) monitoring legal developments, and 6) promoting ethical dialogue. In concrete terms, this means, among other things, updating examination regulations with clear provisions on AI, such as those relating to: What constitutes fraud? Which forms of AI use are permitted for which assessments? Many institutions have recently stipulated additional rules (Kooli, 2023; Chan, 2023). The examination board ensures that these rules are communicated and enforced. If AI misuse is suspected, the examination board will proceed in the same way as for plagiarism procedures: conducting an investigation, hearing the student, gathering evidence and imposing appropriate sanctions in accordance with the applicable fraud protocols and legislation and regulations. If irregularities or fraud are detected in central examinations (NL/ENG), examination boards in vocational education and training must adhere to the protocols of the Netherlands Board of Tests and Examinations (CvTE), in accordance with the Dutch Examination and Qualification Decree (WEB). Board members must stay up-to-date on the possibilities and limitations of detection tools and rapid developments in AI (Kooli, 2023; Chan, 2023). The principle remains that automatic indications of fraud alone are never sufficient evidence; human assessment is always needed for a fair judgement. Examination boards may also act in an advisory capacity towards teaching staff and the executive board. They can provide guidelines for teaching staff on AI-aware assessment practices and collecting best practices. They must also follow legal developments – such as new case law or further regulations on AI use in education – and translate these to their own context. Finally, examination boards can initiate ethical dialogue within the institution, such as discussions about the question “which AI-applications do we consider acceptable and which cross the line?” Such conversations, both with teaching staff and students, help build shared understanding and support for the chosen approach. For vocational education and training, sectoral agreements mean that examinations are often purchased from certified exam providers. To ensure the quality of assessment and examination by programme teams as well as safeguarding of this quality by examination boards, discussions should be held with these external parties.

Professional development and infrastructure Successfully embedding AI in assessment requires adequate digital assessment competence among education professionals. This means investing in professional development for teaching staff, assessment experts, educational advisers and IT support staff so they become familiar with AI applications and know how to use them responsibly. Examples include training in prompting skills, workshops about AI-aware assessment design or peer learning sessions to share experiences. Robust technology infrastructure is also crucial: ideally, institutions should provide secure AI tools (such as in a closed environment or through contracts that guarantee privacy), so that students and teaching staff need not resort to random third-party option.

By controlling access to tools, institutions are better able to ensure compliance with the requirements (security, freedom from bias, etc.).

Ethical frameworks, policy and preconditions to guarantee quality and assurance are fundamental in every decision on AI use in education, assessment and examinations. This calls for the right knowledge and expertise and a proactive attitude. Anticipating legislation, determining clear boundaries and responsibilities and continuously monitoring the balance between innovation and reliability are essential in this respect.

Recommendations for national stakeholders

Alongside actions at the institutional level, various national stakeholders also play a role in setting preconditions and monitoring policy and processes. Government sets out the broad outlines, drives quality improvements and oversees the system. Supervisory bodies, education inspectorate and examination boards safeguard enforcement and quality. Associations and networks encourage development, knowledge-sharing and collaboration across and within sectors. Recommendations for each stakeholder include:

Dutch Ministry of Education, Culture and Science (OCW): Encourage and support the education sector through this transition, for example by developing frameworks and guidelines for AI integration in education in close consultation with the professional field while maintaining institutional autonomy. Funding research, supporting experimental approaches and innovations and facilitating and financing professional development programmes (for instance through SURF or Npuls working groups) are other examples. OCW can also initiate discussions on potential adjustments to legal frameworks if required in practice but also ensure alignment with European regulations and developments related to the AI Act (European Commission, 2023). Ensure that regulations (such as the AI Act) and related developments are widely known and applied in all educational sectors, and support this by developing a national code of practice for AI use in assessment and examination that can be adopted across the sector.

Inspectorates and accreditation bodies: Monitor compliance with new agreements and legislation relating to AI and explicitly integrate AI considerations into institutional reviews and accreditation frameworks. When accrediting programmes, assess whether institutions have a vision on digitalisation and AI and whether they have taken or are taking measures to safeguard quality and integrity in the age of AI. Furthermore, the Accreditation Organisation of the Netherlands and Flanders (NVAO) could collect and disseminate best practices, and engage with institutions to explore their approaches to AI in assessment.

Panel members should be informed and receive professional training on the possibilities and limitations of AI applications and the effects they have on education and assessment. By embedding this topic in reviews, assessment frameworks and accreditation reports, its importance is emphasised and sector-wide examples emerge from which all institutions can learn.

The Dutch Education Inspectorate: Here too: monitor compliance with new agreements and legislation relating to AI and explicitly integrate AI considerations into reviews and accreditation frameworks. In its regular quality assessments, the inspectorate can focus on assessment and examination in relation to AI: Are examination boards properly equipped? Have the examination regulations been updated? Are students assessed fairly?

In case of complaints or incidents (e.g. cases of fraud involving AI), the Inspectorate can identify this and conduct a thematic investigation to draw wider lessons. It is also important that the Inspectorate – together with OCW – monitors whether the system as a whole still offers sufficient safeguards; for example, whether central examinations (such as in certain vocational subjects) are AI-proof or need to be adapted.

The Netherlands Board of Tests and Examinations (CvTE): Given its responsibility for the quality of central examinations (including in vocational education and training), the CvTE must critically evaluate exams in light of AI. This may involve developing assessment and examination methods that are resilient to improper use of AI (such as more adaptive assessment or practical components conducted under supervision) but also exploring how AI might enhance the quality of exams (e.g. through automatic item generation or analysis, provided it is safe and reliable). The CvTE can communicate with schools on how to deal with AI during central examinations, such as by issuing additional guidelines or assessment criteria for examiners. Good dialogue between the CvTE, institutions and examination boards is desirable for effective collaboration.

Professional associations and expert networks: Organisations like the Netherlands Association of Universities (VSNU), the Netherlands Association of Universities of Applied Sciences (VH), the Netherlands Association of VET schools (*MBO Raad*), SURF and professional networks of examiners and assessment experts play a crucial role in knowledge sharing and professional development. They can share guides and facilitate webinars, conferences and peer review sessions where education professionals exchange knowledge and experiences and develop guidelines together. Professional associations can also act as a mouthpiece towards external exam providers and software developers. By expressing shared needs and expectations that stem from evolving professional profiles, or setting requirements for new AI EdTech (e.g. in terms of privacy or bias mitigation), they can steer the market towards responsible innovations.

Student organisations: Finally, we must also consider the perspective and voice of students. National student unions (LSVb, ISO) and student representation platforms can contribute by articulating student perspectives on AI use. They might advocate for the right to a human in the loop in assessment, contribute ideas on how informed consent should be implemented and ensure that AI does not lead to additional pressure or inequality. Actively involving students increases the legitimacy and effectiveness of measures taken.

Together, these stakeholders represent the ecosystem needed to smoothly integrate AI in assessment and examinations. An integrated approach prevents each institution from having to reinvent the wheel and avoids undesired disparities. After all, AI does not stay within sector boundaries and neither should our response to AI.

Conclusions and recommendations

AI acts as a catalyst for change in education: it challenges traditional assessment methods and compels us to define more clearly than ever what we truly want to know about students and how to assess their learning. In an AI-aware learning environment, students and teaching staff collaborate to achieve new or revised learning objectives based on evidence-informed educational and assessment practices, where AI is integrated through the Two-Lane Approach. AI is a valuable technology for enriching learning, but it must be used carefully to prevent potential inequality and unfairness. By adopting a clear vision, we can achieve the best of both worlds – assessment that is fair, valid, and reliable – while also embracing innovation and complex skills required for the future. A crucial factor is that we, as an educational community, should continue to learn and adapt. This transition will not be perfect from the start; we must discover what works through collaboration and knowledge sharing. Involve students in evaluating new assessment methods (“What worked well? What made you feel uneasy?”), monitor effects on learning outcomes and wellbeing, and share findings with colleagues inside and outside the institution. This collaborative effort will make Dutch education future-proof while maintaining quality and trust and making optimal use of this innovative technology to benefit learning.

In summary

The following overview summarises recommendations and key activities in different areas of the education organisation. Detailed elaborations and applications are described in four supplementary guides for education professionals in vocational education and training, higher professional education and research-oriented education in the Netherlands.

Table 1. Recommendations for integrating AI responsibly in the organisation

Level	Recommendations
<i>Institution</i>	- Formulate an institution-wide AI policy for education and assessment, with a focus on privacy (GDPR), legal and ethical frameworks and professional development. - Invest in secure AI infrastructures and IT support. - Foster an open learning culture where AI experiences are shared and professional development is encouraged and facilitated. - Anticipate developments in ethical frameworks and legislation – both inside and outside the institution. - Collaborate with external partners, supervisory bodies, software developers and other stakeholders to facilitate knowledge sharing and agility in future developments.
<i>Programme</i>	- Conduct curriculum scans, analyse existing learning objectives and update or revise them as necessary to meet professional practice needs and AI literacy requirements. - Design educational offerings focused on developing AI literacy. - Analyse current educational and assessment practices, integrating AI use where possible or necessary. - Ensure constructive alignment between learning objectives, education and assessment in AI-driven curricula that allows for flexibility and agility. - Regularly evaluate and update the curriculum.
<i>Assessment assignments</i>	- Evaluate current assessment assignments and redesign them according to the Two-Lane Approach. - Make an overview of learning objectives that are assessed on the basis of different functions. - Provide insight into which assessment assignments of learning objectives are used to determine the quality of learning. - Assess whether and how this decision-making approach for demonstrated learning objectives remains valid and reliable under the influence of AI. - Determine the degree of supervision and controllability required (full, limited, none) with a view to the desired decision-making and/or quality assurance. - Review or redesign the assessment where needed. - Design assessments that are aligned with future AI-driven professional practices/domains while safeguarding assessment quality (validity and reliability). - Provide insight into which assessments are used to support and reinforce learning processes. - Evaluate whether and how the use of AI can assist or reinforce this development.

Level	Recommendations
	- Determine where collaboration with AI is encouraged or mandatory, and facilitate the student's ability to act in accordance with this. - Ensure attribution of student effort/outcome in the learning environment assessment without (full) supervision or controllability, and teach responsible, effective and ethical AI use. - Check whether the revised AI-aware assessment programme adequately covers all learning objectives. - Where appropriate, combine assessment methods based on different assessment functions. - Experiment with assessment methods and share experiences and lessons learned.
<i>Examination board</i>	- Update examination regulations and fraud (and other) policies in line with the GDPR and AI Act with regard to the use of AI and adjust them on the basis of the educational and assessment vision, in accordance with applicable laws and regulations and institutional guidelines and frameworks (Van Toor-van Essen & Den Heijer, 2024). - Communicate about adjusted policy, implementation and organisation to all parties involved. - Prioritise expertise development and professional development regarding AI use and assessment competence. - Monitor, assess and evaluate proposed plans and approaches from the study programmes. - Safeguard and contribute to a well-considered balance between harnessing innovative opportunities and ensuring the quality of education and assessment. - Facilitate ethical and legal discussions inside and outside the institution to promote knowledge sharing and utilisation.

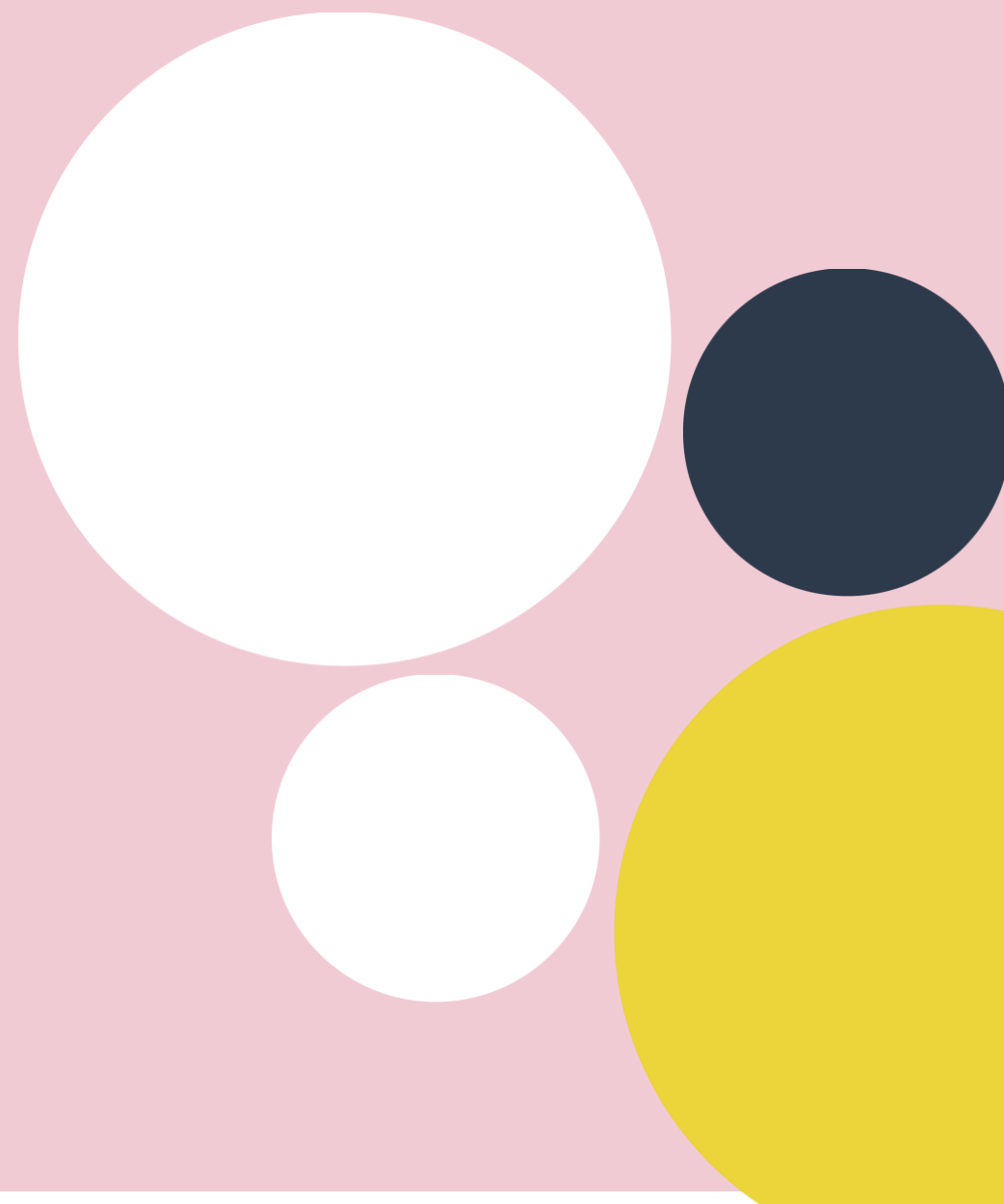
In closing

This vision provides a foundation for institutions of tertiary education (vocational education and training schools, universities of applied sciences and research universities) in the Netherlands to see AI as an opportunity rather than a threat. The resulting guiding principles, set out in a number of guides, support the integrated design of AI-aware education and assessment without losing sight of quality, fairness and the value of diplomas and qualifications. This allows us to maintain confidence in our assessment and examination processes and prepare students for a future in which humans and AI work together constructively.

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