TE_REG Report WP2a1 / UCLL & KUL

GenAI and its implications for teacher education in Flanders: exploratory report

Explorative research report on GenAI in Education in Flanders by the joined forces of KU Leuven and UCLL

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Introduction

This report was developed within the framework of the TE_REG project, an Erasmus+ co-funded initiative that addresses two major challenges facing contemporary teacher education. On the one hand, the rapid development of Generative Artificial Intelligence (GenAI) challenges established practices in teaching and learning. On the other hand, the emphasis on competency-based teacher standards, that has led to analytical, fragmented, and procedural approaches to teacher education. This report focuses on the challenge posed by GenAI, with particular attention to developments in Flanders. It attempts to outline the major developments based on Flemish sources and contexts. In a subsequent report, the implications for learning, teaching, and teacher education will be explored.

An exploratory literature review was made to explore how the educational system in Flanders interacts with GenAI and how it deals with the challenges that go along. This review included both analogue and online academic and popularized literature, policy documents, legislative texts, and program guides. The insights gained from this analysis informed the design of focus group discussions.

In the context of WP2 of the TE_REG project, two kinds of focus group sessions were organized. The focus groups on January 15th and January 29th 2025 addressed GenAI and explored the challenges for education associated with it. The outcomes will be discussed in the subsequent integrative report. The February 5th sessions addressed teacher standards and is described in WP2b1 and WP2b2.

This explorative report consists of three parts:

- Vision and policy on GenAI: clearly present
- Initiatives to translate GenAI vision and policy into practice: plenty
- GenAI ingrained in schools: ‘yes and no’ or ‘no and still’

Vision and policy on GenAI: clearly present

Since February 2, 2025, the European AI Act[1] (Regulation 2024/1689, 2024) has been applied in the European member states. AI systems with unacceptable risks will be banned. Organisations are required to train their employees in AI literacy. The implementation will proceed in various stages.

In Flanders, the AI Act is implemented within the framework of the Flemish Artificial Intelligence Policy Plan. This plan (launched in July 2019, renewed in March 2024, and accounting for an annual investment of roughly 36 million Euros) aims to expand the existing AI knowledge base, increase AI expertise in the Flemish industry and stimulate the rollout of AI in Flanders. For this rollout supportive activities and services are provided in terms of ethics, education and training by the Knowledge Centre Data and Society and the Flanders AI Academy VAIA. They not only translate the legislation to the organisations but also develop concrete tools and guidance to make organisations familiar with AI.

Within the (Ministry of) Flemish education, these initiatives are realised in cooperation with and under the name of the 'Knowledge Centre Digisprong'. Digisprong is a project of the Flemish government that receives European funding. It supports school leaders, teachers and ICT coordinators from all Flemish schools in the field of educational technology, with a specific focus on AI.

In December 2023, this Knowledge Centre Digisprong published a vision text 'Responsible AI in Flemish Education : A collaborative process from development to use' (Alen et al., 2023) encompassing :

a) a definition of responsible AI;
b) the basic conditions that responsible AI should meet; and
c) elaborated guidelines for education.

The vision holds that responsible AI in education is about balancing the opportunities the technology gives us with the negative effects it can have. This is a task for education, developers, government and other relevant stakeholders together. Based on seven basic conditions, the following three guidelines are formulated for Flemish educational institutions :

1. Responsible AI should be seen as a process and should be part of the educational and ICT policy of the educational institution.

[1] Regulation (EU) 2024/1689 lays down harmonised rules on artificial intelligence. It is the first-comprehensive legal framework on AI worldwide. The aim of the rules is to foster trustworthy AI in Europe. To facilitate the transition to this new regulatory framework, the "AI Pact" was launched. https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai

2. Foundations should be laid for a network that is AI-ready and AI-resilient, i.e. educational institutions should be part of a network that collects lessons learned from educational institutions in order to repeat efforts unnecessarily separately.
3. Learners and educational professionals should have the right digital competences, i.e. continuous professionalisation (in the field of AI) should be a natural part of their training and job for educational staff in order to keep up with the lightning-fast evolution of technology.

So, there is a clear and distinct vision and policy on AI in Flanders in general, and for education in particular – at least on paper and available online. The Flemish texts visibly build on the policy of the EU and refer to core publications of UNICEF[2] and the Council of Europe[3]. However, they do not refer to publications of UN or UNESCO, which put human rights as a central pillar (United Nations, 2024) and emphasise a specific human-centred approach focusing on e.g. promotion of inclusion, equity, linguistic and cultural diversity, plural opinions and plural expressions of ideas (UNESCO, 2023). This may be due to the simultaneous origins of the documents and the earlier publication date of the Flemish.

The Flemish documents are easy to find on well-organised websites, with mostly good cross-references to various linked initiatives. Sometimes there is overlap or lack of clarity, which may be due to the different pace of initiatives around digital literacy and digital transformation in general and the place of AI in particular, being either situated under this as a theme or treated separately.

For example, the website of the Knowledge Centre for Data and Society (not specifically for education) includes a section with tools and publications for teachers. The so called 'BrAInfood' publications (info sheets on AI in education) on this website do not link to the same sheets on the website of Digisprong (which is specifically for education). Also, the website of Mediawijs, a Flemish expertise centre that was already active before the breakthrough of AI to get everyone in Flemish Education digital and media savvy, is not linked to the government's new initiatives related to AI.

Statements during the focus group discussions show that participants and people in education (if they are aware of AI at all, see below) are more likely to be aware of concrete initiatives within their school or institution than of the broader Flemish policy framework and how it is situated within the European context of the applicable AI Act.

[2] Policy Guidance on AI for children (UNICEF, 2021)
[3] Artificial intelligence and education. A critical view through the lens of human rights, democracy and the rule of law (Holmes et al., 2022)

Initiatives to translate vision and policy into practice: plenty

The Flemish government provides all kinds of initiatives to translate AI vision and policy texts into concrete educational practice. Digisprong takes the lead in this. On their website, they provide solid and easily accessible materials for schools and teachers such as thematic information dossiers, publications and concrete tools. Examples of these are 'Digisnap' a tool to map the AI digital competences of teaching staff, and the 'ICT policy planner' a tool to design/analyse a school's AI policy.

Primary and secondary education

Message and materials reach the schools, through the effort of the educational guidance services of the Flemish educational umbrella organisations.[4] These organisations also develop their own training programmes and materials in line with the Flemish overarching goals and regulations, but adjusted and applied to their own context. The efforts of the umbrella organisations are publicly visible on the internet for a large part. For OVSG and Catholic Education Flanders, this information is not accessible on their main pages, but can be consulted on the pages for professionals.

GO! explicitly includes AI in its so-called 'Poolster' vision text (GO!, 2020) which emphasises personalised learning. GO! encourages the use of AI to provide tailor-made support especially for outliers and to make learning transparent, manageable, controllable, coachable. On the website of GO!'s pedagogical guidance service, there is an AI section where teachers and schools can find, in addition to a practical AI guide (PBD-GO!, 2024), an overview of possible professionalisation initiatives and various other support materials. Examples include the so-called 'AppetAIsers' (monthly webinars on AI) and the 'AI sprints'. Each 'sprint' lasts about six weeks and focuses on a specific challenge or question from the field (developing insights, delivering concrete tools that help schools implement AI etc.).

OVSG's vision and advise on the use of AI are found in two news articles "ChatGPT in education, curse or blessing?" (OVSG, 2023) and "AI in the classroom: thread or opportunity?" (Molenaers, 2023). These article are available on the OVSG website via

[4] Education in the Flemish Community covers the Dutch-speaking part of Belgium and has three main 'networks' (netten), made up of multiple 'umbrella organisations'(koepels). The umbrella organisations support school boards; draw up curricula and timetables which the school boards adopt; represent the school boards in negotiations with the government. Each education umbrella organisation also has its own pedagogical guidance services. These develop initiatives to support and strengthen schools and teachers. These are the three networks: 1. schools run by the government (Gemeenschapsonderwijs, GO!), 2. subsidized public schools, organised by two umbrella organisations – the provinces (POV) and the municipalities (OVSG), and 3. subsidized free schools, mostly part of 'Catholic Education Flanders' but also including some smaller umbrella organisations. In this text, when we talk about umbrella organisations, we refer mainly to the three biggest (and most influential): GO!, OVSG, and Catholic Education Flanders.

the search function in the list of available professionalisation initiatives. The website shows no separate place for the topic of AI. OVSG emphasises the possibility of artificial intelligence as a 'great equaliser' i.e. personalised support tailored to each learner. The website of this umbrella organisation further mentions a limited number of continuing professional development initiatives, including a general session to be followed first and then specific sessions per education level/type.

Catholic Education Flanders gives AI a visible place under 'themes in the spotlight' on its website for professionals. On this website, the organisation describes its vision and frames it within the Flemish/EU legislation. The organisation explicitly expects its schools to include the use of AI as part of the school's ICT policy based on the so-called 'Four-in-Balance Model' (Schouwenburg, 2023) and to form a clear, shared vision that indicates where AI can be used most effectively. To this end, the Catholic umbrella organisation provides three guidance documents and a number of training sessions that can be followed by teachers and principals.

Several participants of our focus groups say they are aware of the offer and initiatives of the umbrella organisations, they "know" that a lot is organised. However, they indicate that in their experience, it is not yet really a determined policy or obligation. According to them, the offer is still non-committal for the schools.

Besides the government and the education umbrella organisations, there are various private organisations and experts (including academics) that provide all kinds of initiatives to guide schools. E.g. Schoolmakers, a cooperative company that guides learning and change processes in schools, has an AI professionalisation specialist and offers tailor-made guidance for teachers and educational organisations. A participant from this company testified during the focus group discussion that they are currently coaching schools intensively across Flanders at all educational levels.

Teachers are also supported by on-line courses (e.g. an E-learning course on 'AI in education' free of charge as produced by Itec, or on-site courses (e.g. by Excel Thomas More: Wijze lessen met artificiële intelligentie), and articles or books e.g. (Wulgaert, 2025).

Because of the shared language, Flemish primary and secondary schools also make use of materials from the Netherlands. For example, Catholic Education Flanders uses the free 'AI for Education' course developed by AI Coalitie 4 NL (2022), an organisation similar to the Flemish Digisprong.

Initiatives come from individual teachers too. For example, they create materials for their own subjects – such as lesson series, information packages, or tools – which they then share with colleagues or other schools to inspire and support each other's teaching. Some teachers who took part in the focus group discussions presented and shared their materials.

Clearly a lot is going on and plenty initiatives are taken. The previously mentioned Flemish AI Academy (VAIA) pools them. They centralise on their website the professionalisation possibilities and contacts of the government, school and private experts alike.

Klasse[5], the largest multimedia magazine for education in Flanders in which education professionals find interpretation, experiences and opinions, pays attention to the topic very regularly and reports about all kinds of good practices.

Higher education

Looking at the websites of some of the higher education institutions in Flanders, it becomes clear that each one creates its own AI policy, following Flemish guidelines. They clearly communicate – and even highlight – their position on the use of AI on their publicly accessible websites. However, concrete materials such as manuals and courses for both staff and students are often not publicly available or are difficult to access, as they are usually placed on the institution's intranet. A notable exception – from abroad – is the University of Helsinki's free online course, which, as a matter of fact, is also used to train Flemish government staff.

In the testimonies of the focus group participants from the higher education sector, the following tendencies were observed:

- on the whole, education institutions draw up a vision statement in which AI is often included in the institution's strategic goals;
- specific attention is paid to the use of AI tools in assessment;
- AI training courses are organised for both staff and students;
- AI and the institution's position on it are given a visible and prominent place on the website and in public communications;
- and yet, many lecturers remain uninformed or difficult to reach. Only a few programme teams have thoroughly discussed the potential impact of AI on their curriculum.

As for initiatives within teacher education programmes (organised by higher education institutions) specifically, these are not separately visible online. Focus group participants affiliated with teacher education institutes indicated that an 'Introduction to AI' has recently been added as a compulsory course component in

[5] Klasse is a Flemish magazine published and largely funded by the Flemish Ministry of Education and Training. It targets teachers, school leaders, and educational coaches, and is released quarterly. The magazine is distributed free of charge to every school and library in Flanders, giving it a very wide reach. Readership surveys show that 72 percent of teachers in Flanders consider Klasse their most important source of information on parenting and education (Klasse, 2016).

their programmes. However, the content and scope of this introduction differ between institutions.

In summary, it can be said that various bodies and partners at different levels are making considerable efforts, and that a wide range of guidance and materials is available in Flanders to help translate the AI vision and policy of the Flemish government into concrete educational practice across all educational levels. Across the range of available initiatives and resources, two consistent dimensions emerge:

- the professional development of teachers in using AI themselves, and
- the use of AI as a subject of learning for pupils and students.

When reflecting on the content of the available materials and professional development initiatives, focus group participants question whether the current emphasis predominantly lies on acquiring technical skills – such as tool mastery and prompt engineering – at the expense of critically engaging with the pedagogical implications of AI and its potential contribution to the purpose of teaching and learning, i.e. the critical thinking of what makes teaching truly transformative. In the literature, Alcock (2024) in this regard talks about 'the hidden cost of tool-first thinking'. He argues that with AI in education, we are essentially not facing a technological challenge, but rather a philosophical one: the question for him is not "How can teachers keep up with AI?" but rather "How can AI support what great teachers already do?" (Alcock, 2024).

GenAI ingrained in schools?: ‘yes and no’ or ‘no and still’

Based on literature review, no firm statements can be made at this moment on the extent to which the use of AI is established in educational institutions. Digisprong is currently running a survey (Digisnap) that provides individual teachers as well as school coordinators and principals a view of the competences of respectively themselves/their team. However, overview data on the situation in schools across Flanders are not yet available. AI is also only one part of the survey that investigates more broadly the digital competences of teachers. A research project called MAIVO (Monitoring AI in Flemish Education) has been launched in order to fill this gap and get a better understanding of the actual use of AI in Flemish schools.

At the level of individual education professionals, participants of the focus group discussions indicate that, at all educational levels, many education professionals currently lack basic AI literacy.

Data on the adoption and use of AI across the entire population of Flanders are available for the situation in 2024, providing valuable insights (De Marez et al., 2025). In 2024, 93% of the Flemish population is familiar with the concept of AI, 71% reports being able to explain the technology, 45% has already used it, and 28% uses AI technology on a monthly basis—an increase of 10% compared to the previous year. Among young people, the growth is spectacular: 72% of those aged 18 to 24 uses AI tools, 12% of them daily. In the age group of 45 and older, AI usage has doubled.

Moreover, 36% of the individuals who are employed, temporarily unemployed, and/or studying—including young people—indicate a need for training to use AI in their jobs or studies. Only 36% can turn to friends, acquaintances, or family for support with AI-related questions. Among 18- to 24-year-olds, less than half (47%) have such a support network. Furthermore, only 23% report having an employer who encourages the use of AI (De Marez et al., 2025).

At the level of schools, participants of the focus group discussions from primary and secondary schools had divergent testimonies. Valuable initiatives were mentioned in schools by individual teachers who are making great strides through trial and error. Participants noted that some schools have already developed an AI policy (with support from Digisprong) and they point out that the aforementioned education magazine Klasse regularly features these interesting practical examples of teachers and schools.

In contrast, other participants reported that AI is barely or not at all addressed in their schools. They expressed that teachers wish to develop more knowledge but feel they lack opportunities for learning, experience isolation, and perceive an absence of a

clear, supported school policy. Many also indicated the need for more time and space to acquire such knowledge. One participant described a 'missing sense of urgency' or 'change fatigue' in some schools, drawing a parallel with attitudes toward the GDPR regulations: 'We'll hear if we're not compliant.' There is no shortage of initiatives to learn. There are just so many other priorities to work on in education.

Regarding higher education, institutions generally have an institution-wide vision and policy on AI, particularly concerning its use in assessment. However, focus group participants noted that policy implementation remains tentative and varies widely between study programs within the same institution. Consequently, the testimonies on this matter are quite diverse (see below). Higher education institutions also develop AI learning pathways for staff and students; nevertheless, participants reported that many colleagues have not yet engaged with these pathways. No information was provided about student participation in these learning trajectories.

Conclusion

There appears to be broad consensus that – given its significance, ubiquity, rapid widespread adoption (leaving little room for early adopters), and seemingly limitless possibilities – (Gen)AI has a profound impact on education in Flanders. Next to numerous opportunities, it presents considerable challenges for all stakeholders. Numerous initiatives at various levels are set up to develop vision and policy and to inform and engage those involved. Nonetheless, much remains to be accomplished.

During the focus group discussions, participants highlighted various observations, practices, and challenges arising from diverse educational contexts and levels. In addition, they formulated a number of ideas for addressing (Gen)AI related issues in education. The findings are summarised below, structured into six main thematic sections, and formulated as recommendations. Each of these merits focused discussion and further research.

- **Policy discussions in teams (formal and informal)**
  - Review entire programmes to make them GenAI-proof.
  - Appoint GenAI ambassadors for each department or programme.
  - Revise all course description outlines (ECTS) to reflect GenAI considerations.
  - Organise team days focused on GenAI.
  - Facilitate dialogue within teams about educational goals and what students should genuinely learn.
  - Encourage informal GenAI conversations (e.g. in coffee corners).

- **Adaptations in assessment procedures**
  - Conduct exams in protected digital environments (safe exam browser) or on paper, on campus.
  - Organise oral exams (oral defences) where appropriate.
  - Shift towards process-oriented assessment:
    - Evaluate the prompts used.
    - Assess how answers relate to the question asked.
  - Require students to report whether and how GenAI was used in their work.

- **Redeveloping lessons, assignments and didactic methods**
  - Adjust assignment instructions to address GenAI use (noted by student participants).
  - Invite guest speakers during lectures.
  - Experiment with proctoring tools and approaches.
  - Integrate GenAI as an active participant in group work.
  - Use GenAI as a source of inspiration for lesson designs in teacher education.

- Support non-native speaking students by using GenAI to help rewrite and improve texts.

- **Coaching and tutoring students in AI use**
  - Teach responsible and effective use of GenAI.
  - Design tasks that stimulate learning rather than automate it (e.g. instead of writing a summary, let students compare and rank summaries or indicate strengths).
  - Support students in coping with the presence of tools that (might) outperform them, while motivating them to make the effort themselves to develop their own skills.

- **Practical measures and facilities**
  - Provide institution-wide licences for GenAI tools (e.g. Co-Pilot) for students.
  - Address challenges related to strict software safety regulations.
  - Tackle issues around costly discipline-specific proprietary AI software (e.g. for graphic design), which can be unaffordable for institutions.

- **Ethical considerations and equality**
  - Recognise and address the inequality between students who can access paid AI tools and those who cannot.
    According to the 2024 Digimeter report (De Marez et al, 2025): 8% of Flemish people, and 13% of 18-24-year-olds, have access to paid premium GenAI applications. This group tends to have a more positive attitude towards GenAI, confirming the risk of unequal access to information and efficiency.

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