



# G A I O

Portfolio of case studies

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# INTRODUCTION

Artificial intelligence (AI) is playing an increasingly important role in education. From administrative support to personalized learning – AI offers new opportunities and brings challenges at the same time. This document helps education professionals to consciously and effectively integrate AI into their teaching practice.

What can you find in this document?

- **Overview of AI in education:** The most important developments, opportunities and challenges.
- **Practical guides and materials:** Concrete tools and strategies for using AI in the classroom.
- **Expert insights:** Interviews and perspectives of education specialists on the impact of AI.
- **Inspiring examples:** Case studies of teachers and schools that are already successfully using AI.

This document is intended as inspiration and guidance for teachers, school leaders and other education professionals who want to discover how AI can enrich education, while at the same time paying attention to ethics, privacy and pedagogical added value.

Get started and explore the possibilities of AI in education!



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## Looking back at AI in education: what was predicted in 2019 and 2021?

Although artificial intelligence has only really become a hot topic in education in recent years, the possibilities and challenges were already being considered in 2019. This article from 2019 offers an interesting perspective on how AI was perceived back then and what expectations there were. Which predictions have come true? And how has the role of AI in the classroom changed since then? Good to read back and reflect on the developments!

**Read More**  
*(English)*



As of 2021, AI has become an integral part of our society. However, almost all of us used it daily, but often without even realizing it. Worse, few people actually knew what AI is all about. And that is actually a frightening reality.

AI is on the rise in almost all social domains. And that was no different in education...

**Read More**  
*(English)*







## AI in the classroom

### *Radio interview*

Robbe Wulgaert is a dedicated teacher of programming, artificial intelligence (AI) and Design Thinking, based in Ghent. He teaches at the Sint-Lievenscollege and is an external supervisor within the Educational Master of Classical Languages at Ghent University.

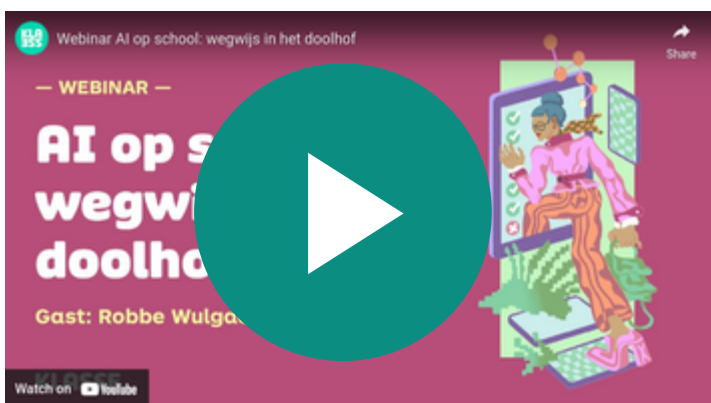
He also teaches courses at the Centre for Continuing Education at the University of Antwerp. As the author of the book "AI in the Classroom – Practical Guide for Education Professionals", he shares his expertise to integrate AI into education in an accessible way.

Listen to this excerpt for his vision on AI in the classroom.

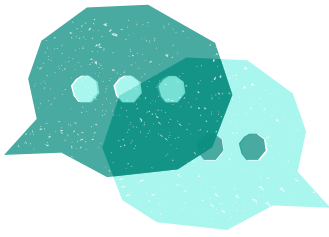


## Webinar AI at school

### finding your way through the maze



How do you use AI technology to make your lessons better? And how do you prevent students from crawling into their easy chairs? Robbe Wulgaert (teacher and author of 'AI in the classroom') will tell you during this webinar from Klasse how to use AI responsibly in the classroom.



## Interview with Sarah Howard & Jo Tondeur:

### *The Future of AI in the Classroom: How Technology is Changing Learning and Teaching.*

The rise of AI in education raises many questions about its impact on teachers' work, the way students learn, and the future of education policy. Sarah Howard, professor at the University of Leeds and expert in digital education, and Jo Tondeur, professor at the Vrije Universiteit Brussel and specialist in educational technology and teacher education, share their insights on the role of AI in education.

#### **AI is fundamentally changing the educational landscape. How do you view these developments?**

- Sarah Howard: "AI is changing the way we learn and teach, but the most important thing is to understand how to integrate this technology responsibly. Every new technology brings unique challenges and opportunities. AI is no exception."
- Jo Tondeur: "My focus is mainly on the professionalization of teachers and how they can use AI in their lessons. We already see that students use AI for their own learning processes, but it is up to teachers to guide them in this and stimulate critical thinking."

#### **Many teachers do not yet know exactly how to apply AI. What do you see as the biggest barriers?**

- Jo Tondeur: "Many teachers use AI for administrative tasks, such as lesson planning, but they are still hesitant to use it in interaction with students. It is similar to how it was with the first computers in schools: teachers had to gain experience before introducing it into their classroom."
- Sarah Howard: "AI has the potential to support personalised learning, but schools need to be careful about how this technology is applied. In some countries, AI is already being used to predict student performance, as we have seen in Australia. This raises ethical questions about privacy and how we interpret student data. AI should never be a replacement for human judgement."

## How can policy contribute to responsible integration of AI in education?

- Sarah Howard: "Governments can provide guidelines, but the real work happens at school level. Policymakers should not be too rigid, because technology is changing rapidly. Schools and teachers should be given the freedom to test and apply AI in a way that suits their educational context."
- Jo Tondeur: "In Flanders, we already have initiatives to support teacher training and schools in implementing AI. We share best practices between teachers and help them develop AI literacy. It is important that they not only learn how to use AI, but also understand the impact it has on learning and teaching."

## What should schools and teachers prepare for the future of AI in education?

- Jo Tondeur: "AI tools will change, but the core skills that teachers and students need will remain the same: critical thinking, problem-solving skills and the ability to deal with technological change."
- Sarah Howard: "We need to train teachers not only in how to use AI now, but also in the skills to adapt to future technologies. Technology is evolving rapidly and education needs to be flexible in its response."

## What would be your most important advice for schools looking to integrate AI into education?

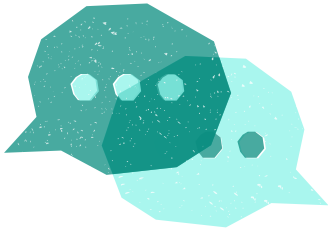
- Sarah Howard: "We need to experiment, learn and work together to determine how best to use AI. The future of education with AI is now, and it is up to us to shape it in the right way."
- Jo Tondeur: "Schools should not see AI as a threat, but as an opportunity. By supporting teachers and students in using it responsibly, we can make AI contribute to better education."



Sarah Howard  
Professor of Digital Education & Director, Centre for Digital Education



Jo Tondeur  
Professor at Vrije Universiteit Brussel



## Interview with Tommy Opgenhaffen

### *AI in education tool or challenge*

The rise of generative AI in education brings both opportunities and challenges. Tommy Opgenhaffen, coordinator of Education Development and Digital Learning at Artevelde University College in Ghent, shares his insights on how AI is currently being used and how teachers and policymakers can deal with it.

#### **What do you think are the main benefits of AI for teachers?**

- "AI can function as a copilot that helps develop learning materials, generate evaluation rubrics and provide feedback on lesson designs. By using AI tools such as Copilot and Read AI, teachers can save time and work more efficiently. In addition, AI can contribute to new multimodal learning opportunities. With tools such as Sora, teachers can visualize their lessons and present historical or scientific concepts in an engaging way. This helps to make the learning material more accessible and increase student engagement."

#### **So AI can play a supporting role in education. Are there also risks?**

- "Absolutely. Although AI has the potential to support personalized learning, there is still a lot of discussion about how it can be used responsibly. In Flanders, the announcement of the learning platform Smartschool, which used AI to predict the risk of school dropout, led to concerns about privacy and ethical issues. AI can help identify problems, but we need to think carefully about what we measure and how we interpret it. Just because a student looks at a screen for an hour does not mean he is cognitively engaged."

#### **How do teachers themselves view the integration of AI in education?**

- "Many teachers already use AI for lesson preparation and administrative tasks, but the number of teachers who actively use AI in the classroom is still relatively small. Many teachers first want to understand how AI works before integrating it into their lessons. This points to a broader need for professionalization and AI literacy in education."



### **What skills do teachers need to successfully integrate AI?**

- "There are three core competencies that teachers need: a deep understanding of their subject area, pedagogical knowledge of how to best convey teaching material, and insight into how technology can add value to the learning process. A well-considered integration of AI requires a balance between these three domains. Teachers need to learn how AI works, but also think critically about how to use it responsibly."

### **How can schools promote AI literacy in students?**

- "Students need to learn to deal with AI without becoming 'AI zombies'. They need to understand how AI works, know how language models and image generation function, and recognize the pitfalls of AI. In addition, they need to learn how to control AI effectively and learn to reflect critically on the output of AI. AI is a tool, but students must always retain ultimate control over their learning process."

### **What do you think is needed to implement AI responsibly in schools?**

- "Schools need clear guidelines. An AI policy must be in line with the broader vision of learning and education. Four aspects play a role in this: technology as a means and not as an end, equal access to AI tools, AI literacy for both teachers and students and clear agreements on privacy and ethics."

### **In addition to the impact on education, there is also attention for sustainability. How do you view this?**

- Tommy Opgenhaffen: "Generative AI is a huge energy and water consumer. Schools must be aware of the sustainability effects and think about when the use of AI is really necessary. AI must be deployed efficiently and purposefully."

### **What is your expectation for the future of AI in education?**

- "Although AI currently seems new and sometimes overwhelming, it will eventually become a self-evident part of education. Compare it to the rise of search engines and calculators. In the past, you had to know how to use Boolean operators in search engines; now searching has become intuitive. The same will happen with AI."

### What would be your advice to teachers and schools who want to embrace AI?

- "Teachers must dare to be vulnerable and discover together with their students what AI can and cannot do. Education must have an investigative culture, in which we use technology critically and constructively. The challenge lies in finding the balance: AI must support learning, but not take over."



Tommy Opgenhaffen  
Auteur Leren.Hoe?Zo! - Coordinator of educational development and digital learning - Expertise network Communication, Media & Design at Artevelde University College





## Thanks to AI, Robbert van Empel works more efficiently. And his lessons are better for it

Praktijkvoorbeeld | Artificial intelligence | po vo

### Dankzij AI werkt Robbert van Empel efficiënter. En zijn lessen worden er beter van

Robbert van Empel, geschiedenisdocent en digicoach op het Teylingen College, is enthousiast over de mogelijkheden van AI voor het onderwijs. Op verzoek van zijn scholienstichting dook hij dieper in de materie. Om er gaandeweg achter te komen dat héél veel scholen met die ene vraag zitten: wat moeten we ermee? Dus reist hij nu het land door om schoolbesturen te adviseren én inspireren.



Door de redactie

🕒 20 december 2024 👁️ 8 minuten lezen



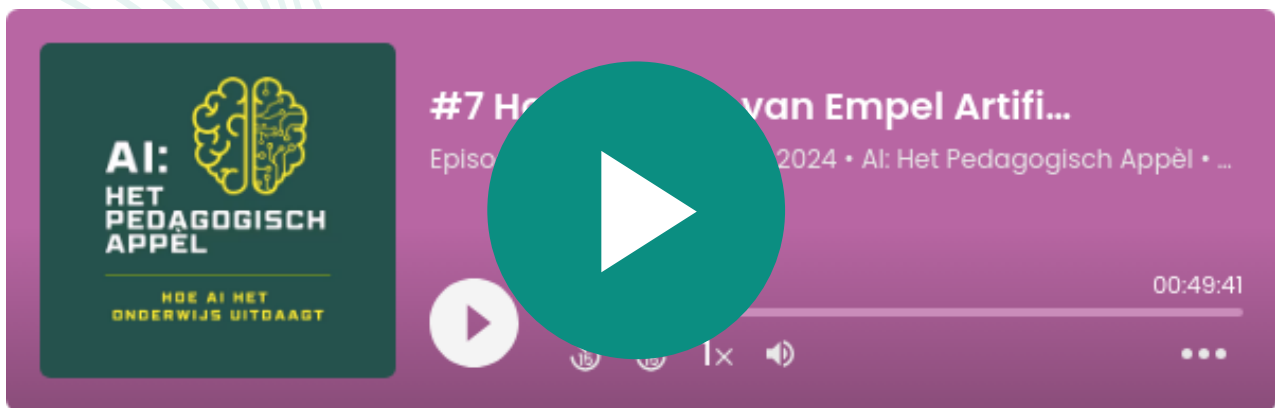
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(English)





## Podcast

In the digital age, many teachers are struggling with the rapid rise of AI and technology in education. Robbert van Empel, history teacher at Teylingen College in Noordwijkerhout, is a pioneer in this field. His approach shows that AI, if used responsibly and thoughtfully, can be an enrichment. In this podcast, NIVOZ director Jan Jaap Hubeek talks to Robbert about how AI is improving his educational practice.





## Case Study - How do we deal with AI - This is how the ROER College made its policy plan

Praktijkvoorbeeld | Artificial intelligence | po vo

### Hoe gaan we om met AI? Zo maakte het ROER College zijn beleidsplan

Het ROER College Schöndeln formuleerde het AI-beleid voor de school. Een brede groep docenten, leerlingen, ouders en ondernemers dacht mee; schooldirecteur Mark van de Mortel, tot de zomer van 2024 directeur op het ROER College, was aanjager. "Ik wist dat AI veel impact zou krijgen op de werkdruk en op het leerproces."



Door de redactie

🕒 25 november 2024 👁️ 7 minuten lezen

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(English)





Language teacher Wouter is researching the possibilities and limits of AI in his Dutch lessons and in writing tasks.

ZO DOEN ZIJ HET

## Taalontwikkeling slim stimuleren met AI

25 oktober 2024 • 4 minuten lezen

Nieuwe technologie loslaten op Middelnederlandse teksten. Persoonlijke feedback krijgen op iedere schrijftaak. Of lesmateriaal dat perfect aansluit bij je thema. Taalleraar Wouter onderzoekt de mogelijkheden én limieten van AI in zijn les Nederlands en bij schrijftaken.



**Read More**  
(English)





## ChatGPT in the classroom? Teacher Kevin was skeptical, but is now in favor: 'Enrichment for students and teachers'

Kevin, a physics teacher, was initially skeptical about using AI in the classroom, but now sees the benefits. In his classes, students use AI as a "study buddy" to ask questions and better prepare for tests. Kevin emphasizes the importance of guidance on the use of AI to prevent students from blindly copying answers.



### ChatGPT in de klas? Leraar Kevin was sceptisch, maar is nu overtuigd: 'Verrijking voor leerlingen en leraren'

Voor leerlingen, werkstukken of om te overhoren. Ook in de klas is AI steeds vaker te vinden. Daar kan je als docent tegen zijn, maar je kan ook mee ontwikkelen. Zoals leraar Nederlands Kevin van der Pol. "Het...

25, 2024





## AI in education: useful helper or substitute teacher?

Rani Van Schoors, postdoctoral researcher at KU Leuven and Imec, researches the impact of AI on education. She sees AI as a valuable addition that can support teachers in personalizing learning paths and easing administrative tasks. However, Van Schoors emphasizes that the teacher remains essential for inspiring and motivating students, and for providing the necessary human interaction that AI cannot replace.



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(English)





## ROC Tilburg embraces AI - and also ChatGPT



Door Jacqueline Bot

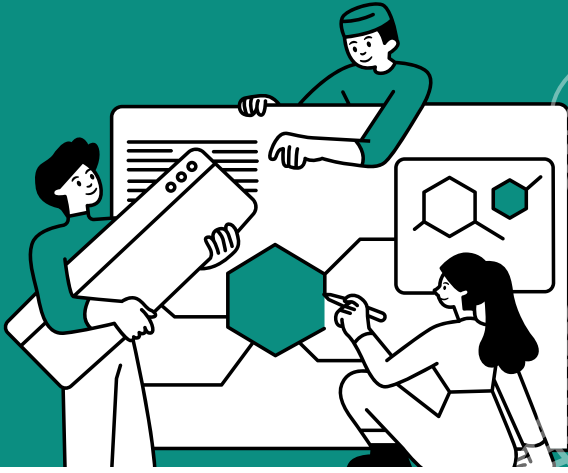
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13 mei 2024, 13:55

Laatst geüpdatet  
11 juli 2024, 14:11

Steeds meer studenten gebruiken artificial intelligence (AI), ook in het mbo. Met name ChatGPT is in trek. Mark de Jong, directeur bij ROC Tilburg (school voor Business en Innovatie) vertelt, samen met drie docenten, hoe er op zijn school mee wordt omgegaan. "Wij omarmen het."

**Read More**  
(English)





## Digitization and good education go hand in hand

INTERVIEW 11 DECEMBER 2024

### Digitalisering en goed onderwijs gaan hand in hand

"Als bestuurder moet je het onderwerp digitalisering serieus nemen en weten waar je staat. Digitalisering is zoveel meer dan alleen een randvoorwaarde voor goed onderwijs." Een duidelijke oproep van Frank Tigges, bestuurder van Nestas scholengroep om de Monitor Digitalisering Onderwijs 2025 in te vullen. Samen met beleidsmedewerker Remco van der Sluis vertelt hij over het thema digitalisering binnen de scholengroep en de wijze waarop zij de monitor toepassen.



**Read More**  
(English)



## The classroom of the future

In the classroom of the future, a talking AI assistant guides students through the assignments, thinks Professor Inge Molenaar. But first, our skills to deal with AI need to improve.



**Read More**  
(English)





## AI teacher Aisha makes students learn differently

This academic year, Tom Naberink launched the AI teacher Aisha together with colleague Marcel Mutsaarts. This AI teacher is available free of charge to all secondary school students. Such an application naturally raises many questions. Does this replace the teachers? (spoiler: no). Why an AI teacher? How does it work and what does an AI teacher add? What do students think of it and how do the teachers react? Many questions, so it's high time for a conversation with Tom Naberink



**Read More**  
(English)



## The perspective of students:

These students themselves think that ChatGPT makes them dumber, but they still continue to use AI for schoolwork.



### **Deze leerlingen vinden zelf dat ChatGPT hen dommer maakt, maar toch blijven ze AI gebruiken voor...**

"Je wordt steeds meer afhankelijk van technologie en dat is wel erg", vinden leerlingen van het Elzendaalcollege in Boxmeer. Maar toch blijven ze - zolang het kan - ChatGPT gebruiken voor schoolopdrachten. En dat ...

 EenVandaag / Aug 23, 2023





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  - [LinkedIn Profile](#)
- Jo Tondeur (Professor at Vrije Universiteit Brussel)
  - [LinkedIn Profile](#)
- Tommy Opgenhaffen (Author, Expert in Digital Learning & Educational Development)
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- AI in education reflections from 2019 and 2021
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