

Gamechanger AI

EFFECTIVENESS IN TEACHING



*My Top 30
AI Use Cases of 2023*

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Foreword: Artificial intelligence reduces the workload for teachers

The professional life of teachers is characterised by a high level of commitment and often also by considerable time pressure. The challenges range from the intensive preparation of lessons and the follow-up and correction of pupils' work to dealing with administrative tasks. Work is often taken home, which is at the expense of relaxation and family time in the evenings or at weekends. Break times are also often used for lesson organisation or individual student support instead of for much-needed regeneration.

In this context, I would like to use my **top 30 AI use cases** to show how the use of artificial intelligence can support teachers in their everyday work:



Time management: There is often not enough time to manage all professional tasks.



Work-Life balance: Work after school and at weekends interferes with relaxation and family time



Administrative workload: In addition to teaching, administrative tasks and documentation take up a lot of time.



Individualised support: The need to do justice to every pupil requires a high degree of flexibility and differentiation in lessons.



Continuous professional development: The need for continuous professional development to keep pace with new educational standards and technologies.

My experience and findings in the use of AI tools show that these technologies can make a significant contribution to overcoming these challenges. They help to optimise work processes, save time and improve the quality of teaching. The aim of

this collection is to provide teachers with practical tools to make their day-to-day work easier and give them more freedom for what is central to the teaching profession: the individual support and empowerment of their students.

Since December 2022, I have been working intensively on ChatGPT and AI in education, exploring opportunities and challenges and sharing my insights in various media. My articles in the acclaimed Austrian newspaper "Der Standard", appearances on Austrian national TV (ORF2) and at panel discussions such as "Bildungstalk: KI im Klassenzimmer" (*Educational talk: AI in the classroom*) have provided me with valuable platforms for exchange.



I hope that my insights and experiences can help other teachers to effectively utilise the potential of AI in education.

Bernhard Gmeiner, January 2024

My top 30 AI use cases

In 2023, the integration of artificial intelligence into the education sector has proven to be revolutionary. As a teacher, I experience every day how AI not only shapes and complicates everyday school life, but also enriches it. My experiences with this technology have convinced me that AI is an indispensable tool for educators. In this article, I share my personal top 30 AI application areas that play a crucial role in my day-to-day work. These applications impressively demonstrate how artificial intelligence can help teachers to make their lessons more efficient, promote student interaction and ultimately improve the learning experience.

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1. **Elementarisation with fictitious scenarios**

I use AI to make complex topics tangible through fictitious countries and scenarios. For example, I have created a worksheet that transfers the historical economic form of mercantilism into the modern scenario of a country that wants to build its own smartphone industry. This method allows students to understand the principles of mercantilism, such as the establishment of production facilities, the promotion of research and development and the protection of domestic industry through tariffs, using a product they are familiar with. This approach allows me to put complicated historical economic forms into a modern and relevant context, which increases the students' understanding and interest.

2. **Simplification of complex topics**

In my lessons, I use AI to simplify complex topics such as the WTO, the stock market or toxic masculinity for different age groups (ELI 5, 10, 15). ELI stands for "Explain Like I'm", where the number indicates the age of the fictitious listener. This approach enables me to convey challenging content in an age-appropriate way. A concrete example of this is the elementalisation of the term "call option" in finance. I use a simple story to familiarise students with this concept: Using ChatGPT, I tell them about a situation in which they give Tim 5 euros, similar to an "option premium", to purchase the right to buy apples later. When autumn comes and the demand for Tim's apples increases, so that the price for a bucket climbs to 40 euros, the students can still buy their bucket for only 20 euros, as agreed with Tim. So they save 20 euros. This everyday story makes the complex concept of the purchase option clear and easy to understand by placing it in a context that is understandable for pupils.

3. **Creation of lesson plans**

I use AI to plan both rough outlines and detailed sequences for my lessons. When preparing my lessons, I regularly use ChatGPT to create both the broad outlines and the detailed sequences of my lessons. AI has therefore become an

integral part of my teaching routine, as it helps me to effectively define and reflect on the objectives of each lesson. By interacting with ChatGPT, I come up with new ideas and approaches that enrich my lessons.

4. **Conversion to different teaching formats**

When converting lesson content into different formats, I rely on a combination of ChatGPT and other helpful tools. ChatGPT itself does not automatically convert content, but provides text-based basics that are ideal for copy-paste into external tools. For the creation of PowerPoint/Google Slide presentations, worksheets or Google Forms quizzes, I use specialised tools such as SlideGPT and Canva Education in addition to ChatGPT.

5. **Creation of rubrics**

AI supports me in developing assessment schemes for group work, presentations and texts. ChatGPT enables me to develop detailed and fair assessment criteria that are transparent and comprehensible for both the students and myself. They help me to provide students with constructive and targeted feedback that helps them to further develop their skills.

6. **Convert original English texts into different language levels**

Converting English texts into a simpler language, adapted to different school levels, is an essential part of my teaching. I have to make sure that the texts covered in class are at the appropriate language level (A1 to B2) for the respective school levels. In addition to ChatGPT, I also use the website diffit.me, which was specially developed for this task. With Diffit, I can adapt any PDF file, text excerpts, article URLs or YouTube videos to different reading levels and languages. Diffit also automatically generates fully customisable resources to accompany the texts, including summaries, vocabulary lists, questions at different DOK levels, open-ended prompts and more. This content can be exported as "student-ready" activities and delivered

in various formats such as Google Slides, Forms, Docs, PPT, Word and printable PDFs. This facilitates the creation of quick reading tasks, worksheets, homework or curriculum-compliant activities for each lesson.

7. 💡 **Development of innovative teaching units**

I let AI create innovative lesson plans or sequences based on an idea, such as the development of an "Educational Board Game" covering all the topics from the previous school year, which I used in my compulsory English elective. The idea of creating a board game that picks up on the content of the previous school year and conveys it in a fun way originally came from ChatGPT. Without the help of the AI, I would never have come up with such a creative idea myself, let alone been able to manage the realisation - the design and instructions for creating the game - on my own. ChatGPT helped me create detailed instructions for the students on how to design the board game themselves. This included instructions for designing the game board, creating game cards and drafting game rules. Not only did this involve the students in the creative process, but it also allowed them to apply what they had learnt in class in a new and exciting way. The implementation of this educational board game was a great success. It allowed students to review and reinforce content from the previous school year while being creative and having fun while learning. This project clearly showed me how valuable the support of AI can be in developing innovative and engaging teaching methods.

8. 🎧 **Working with transcripts**

Using transcripts from YouTube videos, for example, in my lessons offers me a quick and efficient way to generate teaching materials. The availability of these transcripts allows me to create summaries or specific tasks for certain videos in a targeted manner and without spending a lot of time. The process is simple: once I have selected a relevant YouTube video, I access the associated transcript, which is made easily accessible to me via a browser plugin. This textual basis allows me to quickly grasp the key aspects of the video and

develop teaching materials based on them. The situation is similar with available transcripts of podcasts, audio books or listening comprehensions. The latter often include transcripts that I use to adapt the tasks for these listening exercises. This enables me to tailor the tasks precisely to the level of difficulty and learning objectives of my class.

9. Chat with PDF files

Analysing PDF documents with artificial intelligence is a method that I use in class to examine complex texts. I "chat" with the PDFs, so to speak, by analysing and comparing the content with the help of AI tools. This approach allows me to explore the content of the documents in depth and based on specific criteria. For example, in class, I invite students to analyse PDFs of election manifestos of different parties using AI tools. They use AI to formulate specific questions and compare the programmes based on certain criteria such as education policy, environmental issues or economic strategies. The AI helps them to identify key terms and concepts and to work out differences and similarities in the political positions. This method enables students to gain a deeper insight into the political landscape. They then use these insights to discuss and question the analysed positions in group work or to create their own election programmes. This allows them to practise dealing with complex texts and at the same time encourages analytical thinking.

10. Interaction with fictional or historical personalities

In class, I use AI to conduct interviews with fictional characters or historical figures. A concrete example of this is my work with the mini-series "When They See Us", which deals with topics such as racism in the USA. After watching the series in electives, I invited the students to use ChatGPT to conduct an "interview" with one of the main characters in the series. This process began with them taking an in-depth look at the character, their motives, personality and story and formulating questions. They then conducted an interview with the fictional character via ChatGPT. This

exercise enabled them to engage with the characters and the associated social and historical issues in an empathetic way. Not only did they learn to ask critical questions and analyse answers, but they also developed a deeper understanding of the complexity of the events depicted and the perspectives of the people involved.

11. 🔍 **Examining topics from different perspectives**

In my lessons, I use AI, especially ChatGPT, to shed light on topics from different perspectives and thus generate multi-layered input for group work. This approach allows complex and often controversial topics to be explored and discussed in depth. A striking example of this is the design of a complete teaching unit on the topic of "The Science of Happiness". For this unit, I used ChatGPT to create a comprehensive lesson plan. Various aspects of the topic were integrated, such as psychological principles, factors influencing the perception of happiness and cultural differences in the perception of happiness. ChatGPT helped me to identify relevant studies, experiments and theoretical approaches that served as a basis for discussions and group work. In this way, the students were not only able to gain scientific knowledge, but also contribute personal experiences and perspectives. Another example is the treatment of the topic of "Toxic Masculinity" using the person of Andrew Tate, a teaching unit that took a critical look at the concepts of masculinity and their toxic manifestations.

12. 🗒️ **Preparation of factual texts**

In my lessons, I often integrate AI-generated factual texts to create a basis for discussion and critical debate. A concrete example of this is the use of ChatGPT to create pro and con texts for the debate on the introduction of quotas for local players in football leagues. This topic was a central component of my lesson on cultural globalisation using the example of sport. For the lesson, I formulated the question: "Pros & cons: Should football leagues have quotas for local players?" I then used ChatGPT to create two

texts, one arguing the advantages of such a quota and another emphasising the disadvantages. The AI helped to develop well-founded arguments on both sides, taking into account sporting as well as cultural, economic and social aspects.

13. 🏆 **Generation of model answers**

The creation of proposed solutions is another effective tool in my lessons that helps pupils to refine and deepen their approaches. One example of this is a station activity that I organised on the topic of the "climate crisis" in my year 8 class. I used AI to create specific model answers for each station of the activity and made them available to the students once they had completed all the stations.

14. 📖 **Filtering essential vocabulary from texts**

For various exercises in English lessons, I use ChatGPT to extract important vocabulary from texts, which I then use for various more advanced tasks, such as crossword puzzles. The special thing about creating crossword puzzles is that I formulate the prompt in such a way that ChatGPT creates the vocabulary lists and definitions exactly in the format used by Crosswordlabs, a free software for creating crossword puzzles. This makes the next step easier as I can import the list directly into Crosswordlabs and quickly create a customised crossword for my students. Once the crossword is finalised, I share it with my students via Google Classroom. This process is extremely time-saving and effective.

15. ✈️ **Creation of assignments to accompany language trips**

I use ChatGPT to develop detailed guides for projects such as vlog creation during language trips. For example, on last year's language trip to Dublin, my students received specific guidance on how to structure their vlogs, including tips on filming, storytelling and editing to create engaging and informative

content. The aim of the project was to develop the students' language skills and cultural awareness in a creative and interactive way. All instructions and guidance were written using ChatGPT.

16. 📖 Assistance with class readings and films

AI supports me in the development and description of characters, themes, perspectives, plots, etc. of films and class readings. In addition, ChatGPT is of course an extremely helpful assistant in the development of accompanying work materials, such as discussion questions, analytical tasks and creative writing exercises.

17. 🗣️ Time saving through audio input

The ChatGPT app makes input and prompting extremely easy and time-saving. Thanks to the audio input function, you can simply chat away and describe the desired result precisely and in great detail. This works wonderfully in both English and German. This is particularly helpful in terms of better contextualisation, probably one of the most important aspects for successful AI use and one of the biggest differences to conventional Googling. The better and more precise the context described in detail, the better the output of the AI.

18. 🗣️ Audio output function

When using audio output via the ChatGPT app, I benefit enormously from the realistic-sounding voices, which are ideal for training for oral exams. This is particularly valuable as it gives me the opportunity to realistically simulate oral exam situations, such as oral A-Levels. I have already successfully used this conversation option with one student to simulate such an exam situation and prepare the students for the speaking situation. This feature is a great way to prepare students for oral exams. They can communicate in real time in English (or another foreign language) with the AI, which helps them to

improve their speaking skills, refine their pronunciation and train their ability to respond spontaneously to questions. Using ChatGPT in this way helps to build students' confidence and competence in dealing with oral exam situations.

19. Proofreading student texts

Improving student texts is an essential part of my everyday teaching, and I use artificial intelligence as a helpful tool. It is important to emphasise that AI, including ChatGPT, is not a replacement for manual revision work, but it acts as a very helpful assistant that makes the process more efficient and effective. When reviewing student texts, I use AI to analyse aspects such as vocabulary, grammar and content accuracy. ChatGPT helps me to quickly identify common sources of error and make suggestions for improvement. This saves time during the initial review of the texts and allows me to focus on more in-depth aspects of the text work, such as stylistic nuances and content coherence. Another tool that I use sporadically is EditGPT. This tool is specifically designed for improving texts and offers detailed suggestions for optimising text quality. For example, EditGPT can help simplify complex sentence structures, suggest more precise word choices and improve the overall flow of the text. The combination of these AI tools in proofreading allows me to give students faster and more precise feedback. At the same time, as the teacher, I retain final control and assessment of the texts, ensuring that each student's individual voice and style is preserved.

20. Formality in upper secondary level texts

Analysing the level of formality in texts written by high school students is an important part of English lessons, especially in preparation for the Matura. ChatGPT plays a crucial role for me here. I regularly use the tool to analyse the formality of students' texts and to offer alternative text modules to help them improve their texts, especially when a high level of formality is required, such as in reports, essays and other types of texts. In practice, this means that

I run texts through ChatGPT to identify areas where the language is too colloquial or informal. ChatGPT then helps me to find more formal and academic phrasing and wording that better suits the requirements of reports and essays. This can range from choosing more precise vocabulary to using more complex sentence structures and appropriate jargon. Another important aspect is that ChatGPT allows me to cater to the individual needs of each student. Based on their writing style and level, I can offer specific suggestions for improvement and alternative wording to help students refine their texts and achieve an appropriate level of formality. Using AI in this process is not only a great time saver for me, but also provides valuable learning opportunities for the students. They receive direct, constructive feedback and learn how to develop their writing skills to meet academic standards. This is particularly important with regard to the Matura examination, where clearly defined language standards and formally correct writing are crucial.

21. **Creating interactive stories**

This is a brilliant method that I use in the classroom to give pupils an active learning experience. Through this method, they are directly involved in the creative process by making decisions that influence the course of the story. In practice, the way this works is that I first develop a basic theme or starting situation with ChatGPT. Then ChatGPT generates a story that offers choices for the students at certain points. These decisions can affect the plot, character development or the outcome of the story. The students thus become active participants in the narrative and can help shape the course of the story through their own decisions. This language training is particularly useful in lower secondary school.

22. **Visualisation through image creation**

The premium version of ChatGPT also includes the Dall-E 3 image generator, which allows me to create customised and engaging visual aids that are tailored to the needs of my students and the specific requirements of the

lesson. I use this function to create images for text tasks and picture stories. This also works very well in lower secondary school, for example.

23. Expected scope of topics

Creating an expected scope of topics for various tasks is an essential part of my work as a teacher, for which I increasingly use ChatGPT. One particularly useful feature that I use regularly is the photo import function. With this function, I can quickly and easily import a photo of an assignment. The AI then helps me to create an expectation horizon for student answers based on the imported task. The AI analyses the task and generates criteria that define what constitutes a good answer.

24. Support for Excel and Google Sheets

My student records and grades are documented in several Google Sheets. If I have problems with certain formulas, I use ChatGPT. I write or speak my ideas about the table or certain formulas for Excel or Google Sheets into the app and receive perfect guidance from the AI. Firstly, this saves me a lot of time and secondly, it also calms the nerves of my IT colleague, who is now asked for help less often ;-)

25. AI as a drafting aid

When creating teaching materials and communicating with colleagues, parents and students, clear and precise wording is crucial. To ensure this, I regularly use AI-supported tools such as ChatGPT, DeepL Write and Quillbot, which provide me with valuable support when formulating texts. The latter two in particular are especially helpful tools that I use to revise and improve my texts. They offer synonym suggestions and help me to vary my wording, which is particularly useful when I'm trying to avoid redundant or monotonous phrasing in my texts.

26.  **Customised notes for parents' evenings**

Working with ChatGPT allows me to efficiently and accurately create notes and summaries from the student recordings on my Google Sheets that I collect throughout the school year. These notes serve as the basis for communication with parents and provide a detailed overview of their children's performance, progress and any challenges. This assistance is therefore extremely valuable for the successful organisation of parents' evenings and parent-teacher conferences.

27.  **Creation of discussion guidelines**

Similar to the previous point, AI also supports me in preparing for early warning meetings and other important conversations with parents or guardians. The creation of discussion guidelines can be extremely helpful for both sides and a constructive building block for a successful discussion.

28.  **Support with the supervision of thesis papers**

As a supervisor of thesis papers, I use ChatGPT and Co. to effectively support my students in their research and investigation processes. AI tools offer a wide range of support, from finding a topic to the final editing of the work. In addition to the tools mentioned above, I also use some plug-ins and custom GPTs from the premium version of ChatGPT and the Elicit platform, a tool that can analyse millions of research papers. It automates time-consuming research tasks such as summarising papers, extracting data and synthesising research results. This means that students can be steered in the right direction if they actually need editorial or content-related support. Finally, AI is of course also a valuable tool for giving students feedback. This allows me to give detailed and constructive feedback on drafts and finished work, which helps young people to further develop their research skills and write successful thesis papers. However, it is important to emphasise that these described uses of AI do not, of course, make me as a teacher the co-author of the students' work. My role remains that of a guide and supporter, helping

students to optimise their research and writing process and guiding them back on track if necessary.

29. 🚩 AI as support for public relations work

Maintaining my school's Instagram account is an important part of public relations, and this is where ChatGPT comes in to make the process more efficient and effective. I use a CustomGPT which accesses the archive of all previous Instagram posts from the school account. This allows the AI to understand and mimic the unique style and thematic direction of our previous posts. When creating new content, I use this AI to generate draft posts that match our existing Instagram feed in both content and style. ChatGPT also helps me to proofread the texts and ensure they are error-free and engaging. This approach has greatly simplified and improved the content creation process for our school Instagram account. The posts are coherent, reflect the character and values of our school and help to foster a strong online presence and community. With the support of AI, I can ensure that our Instagram account is regularly updated with high quality and engaging content that speaks to and involves both students and the wider school community.

30. 🎤 Assistance with my expert talks (Schmelzgespräche)

When preparing my expert talks Schmelzgespräche - a series of expert discussions that I organise regularly - I rely on the support of ChatGPT to make the process efficient and structured, from planning to follow-up. AI is now an integral part of the organisational process here and helps me to manage a wide range of tasks. For the detailed planning of events, I use ChatGPT to create a schedule that takes into account all the key elements of the event. This includes structuring and filtering organisational points as well as sorting and prioritising the different topics to be covered during the conversations. An important step in the preparation is the creation of questionnaires. With the help of AI, I generate targeted, thematically relevant questions that enrich and deepen the discussion with the experts. These

questions are designed to make optimum use of the guests' expertise and at the same time arouse the interest of the audience. I also use ChatGPT to create to-do lists that provide a clear overview of all upcoming tasks. The AI is also a great help when formulating emails and other texts, such as invitations or press releases. It helps me to write clear and appealing texts that are both informative and inviting. After the talks, ChatGPT helps me to follow up, for example by helping to summarise the key points of the discussion. Public relations, including website updates and social media communications, are also made more efficient and effective with AI support. Overall, the use of AI in the preparation and realisation of the Schmelzgespräche is invaluable. It allows me to organise the events professionally and smoothly, creating an engaging and informative experience for everyone involved. For more information on these events and their subject matter, interested parties can visit the website www.schmelzgespraech.at



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