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AI-Teach

HANDBOOK

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AI-Teach - Artificial Intelligence for primary school teachers
AI-Teach Handbook

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INTRODUCTION

The Handbook serves as the primary product of the AI-Teach project, an Erasmus Plus Cooperation Partnership (KA220-SCH) aimed at enhancing the understanding of the potential challenges and opportunities associated with the appropriate, responsible, and interdisciplinary use of AI-driven tools in primary education.

This Handbook is designed for primary school teachers and educators working in primary schools, providing them with the necessary knowledge and tools to effectively integrate AI into their teaching practices, thereby improving student learning outcomes.

The methodology employed in producing this document is as follows:

- Focus groups were conducted in each participating country (Italy, Poland, and Czechia) to gather insights into teachers' needs regarding resources, tools, and methodologies for integrating AI tools into learning practices. A total of 18 respondents, including primary school teachers from four different primary schools, educators, and tutors, participated in these activities.
- The lead partner, Learnable, compiled all the findings and generated a comprehensive report summarising the key insights.
- The structure of the Handbook was defined and shared with the partners. Subsequently, the contents of the Handbook were developed through collaborative efforts among the AI-Teach partners, with each contributing to its creation based on their respective expertise.

The Handbook is structured into distinct chapters, covering a spectrum of key themes related to AI integration in education:

1. Foundational AI Concepts: This chapter provides a comprehensive overview of fundamental AI principles, ensuring educators possess a solid grounding in the technology's underlying concepts.

2. Ethical Considerations: Delving into the ethical dimensions of AI implementation, this section navigates educators through the ethical implications inherent in using AI tools within educational contexts.

3. Methodological Strategies: Focused on pragmatic methodologies, this chapter offers practical guidance on integrating AI seamlessly into teaching and learning methodologies, facilitating effective implementation strategies.

4. Subject-specific AI Resources: Tailored to educators' needs, this section presents a curated compilation of AI resources categorised according to subject areas, facilitating targeted resource exploration aligned with educational objectives.

5. Lesson Plans: This section presents designed lesson plans that demonstrate innovative methods for incorporating AI tools into classroom teaching. Each plan includes well-defined objectives, engaging activities, and detailed assessment criteria to ensure effective implementation.

6. Case Studies: Offering real-world insights, this section presents exemplary case studies highlighting successful AI implementations in educational settings in all partner countries (Italy, Poland, and the Czech Republic), offering valuable insights and inspiration for educators embarking on their AI integration journey.

BASIC CONCEPTS OF AI

We can define AI as the ability of machines to behave intelligently (in the "human" sense of the term). It encompasses various capabilities such as learning, reasoning, problem-solving, perception, and language understanding, empowering systems to adapt, improve, and make decisions autonomously.

HOW AI WORKS

Different types of AI rely on distinct algorithms, each tailored to specific tasks. One of the most diffused is Language AI. It generates human-like responses by predicting the most probable next word or sequence of words based on the input context. This process involves sampling from a probability distribution over the model's vocabulary or using techniques like beam search to find the most likely sequence of words.

Language AI models typically use deep neural networks (such as transformers), known for their efficiency in handling sequential data, making them suitable for Natural Language Processing (NLP) tasks.

The model is trained using a process called supervised learning. During training, it learns to predict the subsequent word in a sequence given the preceding words. This iterative process occurs over millions of text samples, adjusting the model's parameters to minimise prediction errors.

Attention mechanisms enable the model to focus on different parts of the input text, facilitating a better understanding of context and capturing long-range dependencies.

Additionally, pretrained language models are often fine-tuned on specific tasks or domains to improve their performance in applications like text generation, summarization, or question answering. Transfer learning allows models to use knowledge learned from one task/domain to excel in another with minimal additional training.

Another example can be represented by generative AI. Generative AI harnesses the power of deep learning and neural networks to learn the underlying patterns and distributions in training data and generate new content that is similar to what humans produce. Through training, optimization, and evaluation, generative models can create realistic and diverse samples across various domains, unlocking a wide range of creative and practical applications.

Working on and with AI in schools is crucial for several reasons.

EDUCATION ON AI

It is necessary to educate people to recognise the benefits of AI, but above all, to use AI consciously.

Working on AI will prepare students for a tech-driven future, equipping them with essential skills for the modern workforce.

Understanding AI ethics and implications fosters responsible use and critical thinking among students, ensuring they navigate technology ethically and responsibly in their future endeavours. Overall, integrating AI into education fosters innovation, enhances learning outcomes, and empowers students to thrive in the digital age.

Efforts should be made to create a culture on AI, making students (and not only) reflect on some fundamental points:

- Who is responsible for AI choices?
- Designing simple AI systems: learning to build and train AI algorithms could be a way to use commercial systems of this type consciously.
- Understanding AI systems: AI, if used correctly, enhances human intelligence! People need to be educated in the correct use, and appropriate skills need to be developed for a life that is truly improved by AI.

EDUCATION WITH AI

AI enhances learning experiences through personalised education, adaptive tutoring, and interactive tools, catering to diverse learning styles. Moreover, AI streamlines administrative tasks, freeing up educators' time for focused teaching and mentorship.

By creating appropriate intelligent systems, paths for students with different levels and different learning speeds can be differentiated. We could even suggest different paths based on different learning styles; for example, Papert and Turkle in the article "Epistemological Pluralism" propose two approaches to problem-solving (specifically referring to programming problems): hard and soft. These approaches highlight the importance of catering to different cognitive styles in education.

LLM systems, leveraging their advanced natural language processing capabilities, present a promising avenue as tutors for learning. Their ability to comprehend and generate human-like text enables them to provide personalised and adaptive learning experiences tailored to individual needs. LLMs can offer instant feedback, explanations, and clarification on complex concepts, fostering deeper understanding. Moreover, their vast knowledge base allows them to curate diverse learning materials, from textbooks to scholarly articles, enriching the educational experience. Through interactive dialogues and simulations, LLM tutors can engage learners in immersive and interactive learning activities, enhancing retention and comprehension. As these systems continue to evolve, they hold immense potential in revolutionising education by offering accessible, scalable, and effective learning support.

However, it is crucial to recognise that LLM systems come with risks such as biases and over-reliance. Therefore, students need critical thinking skills and guidance to use them effectively and responsibly.

THE ROLE OF TEACHERS AND SCHOOLS

The possibilities that AI will offer for the world of education will certainly be vast. The figure of the teacher will remain very central: both in defining the problem, fundamental for the design of AI systems effectively useful within the educational field, and for validating the results obtained with such systems.

It will be necessary to build collaborations on multiple fronts:

- From a social point of view, teachers, students, and parents, will have to work with researchers and policymakers to develop an ethical framework within which the evaluation carried out with AI systems can bring advantages and benefits;
- From a technical point of view, companies and academic research groups will have to collaborate in designing effective AI systems within the educational world;
- From a political point of view, leaders will have to recognize the potential provided by AI, facilitating access to funds and resources for research and development of systems in this sector.

Looking for the right inspiration, we can conclude by quoting a sentence from Professor Luckin: "AI has the potential to bring about enormous beneficial change in education, but only if we use our human intelligence to design the best solutions to the most pressing educational problems."

ETHICAL IMPLICATIONS

The use of AI tools and systems can potentially enhance teaching, learning, and assessment, provide better learning outcomes, and help schools to operate more efficiently.

To maximise the benefits of AI in education, it is crucial to be aware of the risks and ethical concerns. Teachers and educators should know whether the AI systems they are using are reliable, fair, safe, and trustworthy and whether the management of educational data is secure, protects the privacy of individuals and is used for the common good.

In the following sections, you can find some critical aspects that may arise when you are using AI tools and systems and provide mitigation measures to address these aspects.

AI AND DATA PRIVACY

Data is the lifeblood of AI. In the context of education, most of the AI systems collect and analyse vast amounts of data from students to tailor learning experiences, provide insights, and even predict future performance. While this data-driven approach has its advantages, it raises significant privacy concerns.

Students generate a digital footprint every time they interact with an AI system, whether by submitting assignments, participating in online discussions, or browsing educational resources. This data, often sensitive and personal, can be susceptible to misuse or breach if not properly managed and protected.

To mitigate the risks associated with data feeding, schools and educators should adopt the following strategies:

- Develop Data Literacy: Ensure to have educators with a proper understanding of data privacy, AI algorithms, and the implications of sharing seemingly unimportant data with AI models.
- Implement Data Collection Guidelines: Establish clear guidelines for data collection, specifying the types of data that can be fed into AI models and ensuring that only relevant and necessary information is used.
- Establish Clear Data Privacy Policies: Develop comprehensive data privacy policies that outline how personal information will be collected, stored, and used. Set out the circumstances in which AI will be used and if or when personal data will be used with these tools.
- Read privacy policies: Always read the privacy policies of any AI-powered tools or websites you use to understand how your (or your student's) data is being collected, stored, and used.
- Avoid sharing personal information: Educators should avoid sharing any personal information such as full name, phone number, or email address engineering prompts when using AI-powered tools and should follow age restrictions.
- Obtain Informed Consent: Seek consent from students and their families before collecting personal information for use with AI technology. Consent should be informed, i.e. based on a clear explanation of the purpose and benefits of data collection when used in AI tools.
- Protect Data: Establish a robust system to safeguard against cyber-attacks and data breaches.

RELIABILITY AND BIAS OF AI

Algorithmic bias is another pressing ethical concern in AI-driven education. AI systems are trained on vast datasets, and they learn patterns and make decisions based on this data. If the training data is biased, the AI system's decisions can also be biased. For example, the results of an AI programme that generates images may exhibit stereotypes based on factors like skin colour,

gender, or age. For instance, it might consistently depict a "professor" as an older white man, reflecting historical biases where professors were mostly male.

Moreover, AI is often accurate, but it is not always perfect and students might receive inaccurate adaptive content. It is the case of AI hallucinations where an AI model generates false, misleading or illogical information, but presents it as if it were a fact. It is most commonly associated with AI text generators, but it can also occur in image recognition systems and AI image generators. As an education professional, it is important to assess its reliability to ensure its effectiveness and validity.

To address these risks, the educators can adopt the following measures:

- **Data Quality and Integrity:** The accuracy of AI systems heavily relies on the quality and integrity of the data they are trained on. Educators can first evaluate and verify AI-generated outputs with trusted sources before accepting it as true (fast-checking). This helps ensure that AI algorithms produce reliable and unbiased results.
- **Robustness to Different Contexts:** AI systems should be tested for their robustness to different educational contexts, such as diverse student populations, varying learning environments, and subject domains. For example, an AI-driven language learning tool should be tested in classrooms with students from various linguistic backgrounds to ensure it effectively supports language acquisition for all learners.
- **Artefact Development Evaluation:** Instead of only assessing the final artefact, educators should also examine the process of artefact development. This involves thoroughly reviewing the methodology, data sources, and reasoning used to create the artefact to verify its credibility and authenticity.
- **Long-Term Performance:** Evaluating the long-term performance of AI systems is crucial to ensure their reliability over time. Monitoring how AI systems adapt and evolve with changing educational requirements and emerging challenges helps maintain their effectiveness and validity.

DEPENDENCY

As schools become increasingly reliant on AI-powered solutions, there is a risk that teachers and students may become too reliant on technology. This might reduce their critical thinking and problem-solving skills and the ability to analyse, evaluate, and form independent thoughts. In the long run, this dependence may hamper their overall cognitive development and limit their capacity to think critically.

To address this concern, educators can consider the following elements while implementing the AI tools:

- **Continuous Adaptation:** Educators must continually adapt their approaches to maintain a sensible balance between AI usage and critical thinking. They can design and incorporate AI use with activities that promote independent inquiry and problem-solving.
- **Promote Human-AI Collaboration:** Educators must emphasise the importance of human-AI collaboration rather than relying solely on AI or human intelligence. Promote the idea that AI is a tool to augment human capabilities, rather than replace them.
- **Encourage Collaboration:** Educators can incorporate AI use with collaborative learning activities that require students to work together, discuss ideas, and solve problems as a team.

In conclusion, educators and schools are also encouraged to explore and familiarise themselves with the '[Ethical guidelines on the use of artificial intelligence and data in teaching and learning for educators](#)' published by the EU Commission for further guidance on responsible and ethical AI integration in educational contexts.

METHODOLOGICAL ASPECTS

AI can change the quality of distance learning by enabling new blended learning modes. Teachers will have tools at their disposal to modify their teaching methodologies and enhance them for the benefit of students.

AI tools will enable learners to take advantage of content increasingly in line with their skills, learning styles, and achievements. It will help them overcome obstacles and barriers through interactive and adaptive tutoring systems. Finally, it will equip teachers with increasingly effective tools for creating learning materials and pathways.

We have identified 3 main areas that will affect the educational approaches:

PERSONALISED LEARNING

AI can help instructors create learning experiences that are tailored to each student's individual needs, preferences, interests, and skill level. Some of these adaptive products have been widely available for years, but recent technological advances can now be leveraged to provide even more personalised instructional opportunities for learners and course designers. Instruction can be customised using AI-generated personalised learning to fit specific learning requirements (goals, skills, career paths, etc.). AI-based learning systems allow instructors to access useful information about learners' abilities and progress and provide suggestions for how to customise instructional methods to meet each student's specific needs.

Some examples of personalised learning can be the following:

Individualised Feedback: a platform like Duolingo for language learning uses artificial intelligence to provide immediate feedback to students, correcting errors and offering personalised tips to improve language skills.

Customised Content: with the help of tools like Smart Sparrow or Coursera, AI algorithms can create courses and educational materials tailored to students' specific needs, offering educational resources customised to their preferences and proficiency levels.

Scaffolded Support: a platform such as IXL Learning uses AI to provide scaffolded support to students, progressively increasing the complexity of activities based on their level of proficiency and growth over time.

Data-Driven Insights: with data analytics tools like BrightBytes or Knewton, teachers can gain deep insights into students' performance, identifying patterns and areas for improvement to further personalise teaching.

Accessibility and Inclusion: AI tools like Microsoft Learning Tools (i.e. Microsoft Copilot) or Read&Write can provide support for students with disabilities, offering features such as text-to-speech, word highlighting, and translation to ensure accessibility for all students.

Teacher Support: With Learning Management Systems (LMS) such as Moodle or Canvas, teachers can use integrated AI tools to automate administrative tasks, monitor student progress, and receive suggestions for improving teaching practices.

Lifelong Learning Opportunities: Through adaptive learning platforms like Brainscape or Quizlet, students can access personalised educational materials that foster the development of self-directed learning skills, preparing them for lifelong and authentic learning in adulthood.

INTELLIGENT TUTORING SYSTEM

An intelligent tutoring system (ITS) using AI can offer learners tailored guidance and feedback, aiding in the mastery of specific concepts or skills. In tackling challenging subjects, such a system may begin with fundamental information and then present deconstructed examples to assist the learner as required. ITSs are capable of delivering a learning experience akin to human interaction, fostering self-directed learning when suitable and delivering various forms of personalised feedback.

An AI-based intelligent tutoring system can be highly beneficial for both primary school teachers and students. For teachers, it offers personalised insights into each student's learning progress, allowing for targeted interventions and tailored support. This system can help teachers identify areas where students may be struggling and provide real-time feedback to adjust teaching strategies accordingly. For students, the AI tutor offers interactive and adaptive learning experiences, catering to individual needs and learning styles.

It can provide immediate feedback, personalised recommendations, and engaging activities, fostering a deeper understanding of concepts and enhancing overall academic performance.

Concrete examples can be:

Individualised Guidance: Platforms like ABCmouse leverage AI to offer tailored guidance to primary school students, providing immediate feedback on their progress in various subjects and suggesting personalised learning paths to address individual strengths and weaknesses.

Adaptive Content: AI-powered platforms such as DreamBox Learning can dynamically adjust the difficulty and content of educational activities based on students' performance, ensuring that each child receives appropriately

challenging and engaging material.

Interactive Learning Assistants: Tools like MobyMax use AI to serve as virtual learning assistants, offering step-by-step support to young learners as they tackle maths problems, reading exercises, and other academic tasks.

Progress Monitoring: AI-driven systems like Khan Academy Kids enable teachers to closely monitor students' learning progress, identifying areas where additional support may be needed and tracking individual growth over time to inform instructional decisions.

Engagement Enhancement: Platforms such as Prodigy Game employ AI algorithms to enhance student engagement by personalising game-based learning experiences, adapting gameplay elements to match students' skill levels and interests.

Multisensory Learning Tools: AI-integrated apps like Osmo provide multisensory learning experiences for primary school students, combining physical manipulatives with interactive digital activities to reinforce concepts in subjects like maths, spelling, and coding.

Inclusive Education Solutions: AI technologies like Tobii Dynavox offer inclusive learning solutions for students with diverse needs, including speech and communication difficulties, by providing customizable assistive tools and adaptive learning experiences.

Collaborative Learning Platforms: AI-enabled platforms such as Seesaw facilitate collaborative learning experiences for primary school students, allowing them to share their work, provide feedback to peers, and engage in interactive discussions under the guidance of their teachers.

CONTENT CREATION

AI-driven tools can assist educators in automatically generating top-tier course content, including quizzes, assessments, and simulations. For instance, a course designer could create highly immersive course material by inputting a few text prompts into a generative AI engine that aligns with student learning objectives. This engine not only suggests content but also designs the learning experience and pathway in some instances.

AI-driven content generation tools can streamline the course development process, alleviating the time constraints often faced by course developers and subject matter experts. This enhancement ensures that the course creation process becomes more manageable, quicker, and adaptable without compromising quality. Automatic translation and localization are among the many ways AI enhances eLearning creation, making it swifter and more effective.

AI can help teachers create:

Quizzes: AI-powered platforms can analyse students' learning data and automatically generate quizzes tailored to their individual strengths and weaknesses. For example, the platform might create maths quizzes with varying levels of difficulty based on the student's proficiency in different maths concepts. AI-powered platforms such as SMART Learning Suite or Edulastic can analyse students' learning data and generate quizzes tailored to their individual strengths and weaknesses.

Flashcards: AI algorithms can generate personalised flashcards for students to reinforce learning concepts. These flashcards can include images, definitions, or example sentences customised to the student's learning preferences and progress. Tools like Quizlet or Cram use AI algorithms to enhance flashcard creation and review processes, providing personalised study recommendations

based on students' performance.

Summaries: AI tools can analyse textbooks, articles, or other educational materials to automatically generate summaries tailored to students' reading levels and comprehension abilities. These summaries can help students grasp key concepts and information more efficiently. AI-powered summarization tools like Rewordify or SummarizeBot can automatically generate summaries from educational materials, adjusting length and complexity based on students' needs.

Language Learning Support: AI-based language learning apps can generate personalised quizzes, flashcards, and summaries to help students improve their language skills. AI-based language learning apps like Duolingo or Babbel provide personalised quizzes, flashcards, and summaries to aid language learning, leveraging AI algorithms for adaptive learning experiences.

Content Generation: AI-powered platforms such as Smart Sparrow or Labster use AI algorithms to assist primary school teachers in generating simulation scenarios.

AI-powered platforms such as Legends of Learning can assist primary school teachers in generating simulation scenarios tailored to young learners. For example in science, MEL Science provides interactive virtual experiments suitable for primary students to explore basic concepts such as states of matter, simple machines, or the water cycle. The platform uses AI to create engaging simulations that align with primary science curriculum standards.

In mathematics, Legends of Learning offers maths games and simulations designed for elementary students to practise foundational skills like addition, subtraction, multiplication, and division. AI algorithms help adapt the difficulty level of the simulations to match the students' grade level and learning pace.

In social studies, AI-driven platforms like BrainPOP Junior offer animated

movies, games, and quizzes covering topics such as history, geography, and culture. These simulations are specifically designed for primary students to explore various social studies concepts in an interactive and engaging way.

Presentations: AI can assist in designing visually appealing slides by suggesting layout options, colour schemes, and font combinations, and generating images. This ensures that presentations are engaging and easy to understand for young students. AI analyses content to recommend layouts, colour schemes, fonts and images for visually appealing presentations, enhancing learning for kids.

For example, Canva uses AI algorithms to suggest layouts, colour combinations, and appropriate fonts for presentations. This tool offers a wide range of customizable templates and graphic elements that can be tailored to fit the specific needs of the teacher and their audience. Beautiful.AI uses artificial intelligence to automate the slide design process, providing suggestions on optimal layouts, fonts, and colours. This tool helps teachers create engaging presentations quickly and intuitively.

COLLECTION OF FREE AI-BASED TOOLS

PROGRAMMING AND MACHINE LEARNING



Machine Learning for Kids



This free tool introduces machine learning by providing hands-on experiences for training machine learning systems and building things with them.

It provides an easy-to-use guided environment for training machine learning models to recognise text, numbers, images, or sounds.

This builds on existing efforts to introduce and teach coding to children, by adding these models to educational coding platforms [Scratch](#) and [App Inventor](#), and helping children create projects and build games with the machine learning models they train.

The tool was first made available in 2017, and is now being used by thousands of schools, code clubs, and families around the world.



www.machinelearningforkids.co.uk

[All school subjects](#)



Learning Machine Learning



Machine Learning is a set of algorithms and techniques that allow to building of prediction and classification models from known data sets. Although there are many types of Machine Learning algorithms, all share a similar operating structure: a set of data whose classification is known in advance is presented as algorithm entries. With these example data the algorithm adjusts many parameters in a model so that, in addition to classifying the input data, it can classify new data whose classification is not known in advance.

Machine Learning is one of the most successful fields of Artificial Intelligence. Although many of its techniques and algorithms have been known for a very long time, it has been in recent times that a true revolution in Machine Learning has taken place. This is due to the computing power of today's computers combined with the large amount of data on any subject that exists today. So much so that when we talk about Artificial Intelligence in the media, most of the time they refer to Machine Learning.



www.web.learningml.org/en/home-spanish-en-translation

[All school subjects](#)

Teachable
Machine

Teachable Machine



A quick and easy way to create machine learning models for your sites, apps, and more, with no programming experience or knowledge needed.

Teachable Machine is a web-based tool that makes building machine learning models fast, simple, and accessible.



www.teachablemachine.withgoogle.com

[All school subjects](#)



Teachable Machine + Dancing with AI



Physical movement is one of the most engaging ways to interact with AI systems, but it's rare today to see motion integrated with K-12 AI curricula. Beyond that, many middle schoolers have passionate interests in dance, art, physical movement in sports, and video games that involve physical motion (Beat Saber, Just Dance) which aren't easy to build on in the typical creative learning environments found in classrooms. Dancing with AI is a week-long workshop curriculum in which students conceptualise, design, build, and reflect on interactive physical-movement-based multimedia experiences. Students will learn to build interactive AI projects using two new Scratch Extension tools developed for this curriculum:

- (1) hand/body/face position-tracking and expression-detecting blocks based on the machine learning models PoseNet & MediaPipe from Google and Affectiva's face model, and
- (2) Teachable Machine blocks that allow students to train their own image- and pose-recognition models on Google's Teachable Machine and use them as part of their projects.



www.dancingwithai.media.mit.edu

[All school subjects](#)



ChatGPT



ChatGPT is a free-to-use AI system. Use it for engaging conversations, gaining insights, automating tasks, and witnessing the future of AI, all in one place.

ChatGPT can assist teachers in teaching grammar, punctuation, and writing techniques. It can also be used to check and correct students' written assignments, providing instant feedback on grammar, spelling, and coherence. ChatGPT can help foster critical thinking skills in students. Teachers can engage students in discussions and debates with ChatGPT on various topics.

You can give it unlimited queries with the free version.



www.chat.openai.com/auth/login

www.openai.com/blog/teaching-with-ai (A guide for teachers using ChatGPT in their classroom).

www.moreusefulthings.com/prompts (Prompt Library).

[All school subjects](#)



Bingchat



Bing Chat is a ChatGPT-4 powered chatbot that can help you browse the web, answer questions, and much more. It can be accessed through the Bing website or Microsoft Edge browser and can be used to ask both simple and complex questions, and request summaries of articles, books, events, news, sports results, and more. Bing Chat can also be used as a creative tool, helping you write poems, stories, or even share ideas for a project.



<https://bing.com/>

<https://www.moreusefulthings.com/prompts> (Prompt Library).

[All school subjects](#)

The Microsoft logo, consisting of four colored squares (red, green, blue, yellow) arranged in a 2x2 grid.

Microsoft | Copilot **Microsoft Copilot**



Microsoft Copilot is a chatbot developed by Microsoft. Based on the Microsoft Prometheus model built upon OpenAI's GPT-4 LLM. Copilot is able to cite sources, create poems, and write both lyrics and music for songs generated by its Suno AI plugin. It can use its Image Creator to generate images based on text prompts. It is able to understand and communicate in numerous languages and dialects.



<https://www.microsoft.com/it-it/microsoft-copilot>
<https://educationcopilot.com/> (Generate Lesson Plans & Other Educational Materials).

[All school subjects](#)

Google AI **Google Gemini**



Google Gemini is an AI tool developed by Google, drawing upon cutting-edge technology to revolutionise various aspects of content creation and generation. Built upon advanced machine learning algorithms, Google Gemini excels in diverse tasks, including sourcing citations, crafting poetry, and composing music and lyrics using its integrated AI capabilities.

Moreover, it features an Image Generation function, enabling users to produce visual content based on textual prompts.



<https://gemini.google.com/>

[https://www.moreusefulthings.com/prompts_\(Prompt_Library\)_](https://www.moreusefulthings.com/prompts_(Prompt_Library)_)

[All school subjects](#)

VISUAL & DESIGN TOOLS

Image Creator

Image Creator from Microsoft Designer



With Image Creator from Designer you can create images from a few keywords. It is based on Dall-e.

Sign up to create a new Microsoft account or log in to your existing Microsoft account. New users are granted 15 enhanced generations for Image Creator. The images will be stored for a maximum of 90 days.

It is also possible to use DALL·E 2, which is free of charge. It allows you to create realistic images and art based on a description in natural language (Link: <https://openai.com/dall-e-2>)



[Image Creator da Microsoft Designer \(bing.com\)](https://bing.com)

[Arts, Storytelling](#)

Canva **AI image generation by Canva**



With Canva you can create images starting from a few keywords



<https://www.canva.com/ai-image-generator/>

[Arts, Storytelling](#)



Adobe Firefly



Firefly creates beautiful images, text effects, original colour palettes and other high-quality content with simple text prompts. It creates original content from reference images and explores other possibilities, in a short time.

Adobe's Firefly generative AI feature is available for everyone. The Firefly web app is free but with limited functionality and selection of text prompts and output formats.



<https://www.adobe.com/it/products/firefly.html>

[Design, Arts](#)

PIKA

Pika 1.0



Accessible via the web, Pika 1.0 allows users to generate and edit videos in diverse styles such as 3D animation, anime or cinematic – from simple text prompts.

It comes with an easy-to-use conversational interface (similar to ChatGPT), where a user enters the idea of the video they envision. Once the prompt is entered, the underlying model will produce the results.



<https://pika.art/login>

[All school subjects](#)



Wondershare Virbo



Wondershare Virbo is an AI-powered tool that helps to transform textual content into audio form with different AI algorithms.

Virbo also offers a cloud storage feature to securely save all the projects and make them accessible on all devices. In addition, it supports around 120+ voices and languages to help its users increase their content reach to new audiences globally. It also has an AI script generator function that can be used to write a script for a unique idea, which you can then transform into a compelling video.



<https://virbo.wondershare.com/app/>

[All school subjects](#)



TuneFlow



TuneFlow is an intelligent music making platform powered by AI. It is designed to simplify and enhance music creation, regardless of the user's level of expertise.

With TuneFlow, users have access to a range of powerful AI features that cover various aspects of music production. These features include Voice Clone, which allows users to select and clone voices or generate their own; ChatGPT Lyrics, a powerful tool for generating lyrics on any topic; Smart Composer, which helps users kickstart their music ideas with pre-designed melodies and accompaniment tracks; Smart Drummer, an AI-powered tool that automatically fills drum clips with preferred beat styles; and Ultra-Clean Source Separator, which separates mixed audio tracks into individual vocal, drum, bass, and other stems.



https://tuneflow.com/?ref=taaft&utm_source=taaft&utm_medium=referral

[Music](#)

COLLABORATION & COMMUNICATION TOOLS



Seesaw



Seesaw is a digital platform designed for primary school educators to facilitate communication, collaboration, and portfolio management within the classroom. It allows teachers to create assignments, share resources, and provide feedback to students in a digital format. Students can then complete tasks, upload their work, and engage with their peers' submissions.



<https://seesaw.com/>

[Arts, Math, Geometry, Science and social studies](#)

LESSON DESIGN & CONTENT CREATION TOOLS



MagicSchool.ai

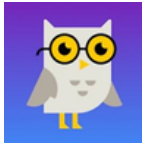


MagicSchool.ai is an AI-powered educational platform designed to help teachers save time by automating tasks such as lesson planning, grading, and generating educational content. It offers over 40 AI tools that are searchable by keyword and categorised for planning, student support, community, productivity, and community tools.



<https://app.magicschool.ai/>

[All school subject](#)



Socratic



Socratic is an educational application designed to help students find answers and solutions to questions and problems across various school subjects. Using artificial intelligence technology, Socratic analyses students' questions and provides detailed explanations, educational resources, and helpful tips to tackle the topic at hand.

With an intuitive and user-friendly interface, Socratic is a valuable resource for elementary school students and teachers to explore educational concepts in an interactive and engaging manner.

This learning app is powered by Google AI.



<https://play.google.com/store/apps/details?id=com.google.socratic&hl=it&gl=US&pli=1>

[All school subjects](#)

A rectangular box with a blue-to-purple gradient background containing the text 'Magic Studio' in white.

Magic Studio

Magic Studio By Canva



Magic Studio brings together the best AI-powered tools right inside Canva.

It allows you to edit your images with the powers of generative AI. As always, it's important that you have the right to use and edit any images you upload into Canva. You can also use images from the Canva library, and yes, even make edits to AI-created images!

You can try out Magic Studio for free. Its AI image generator and art generator let you generate up to 20 images for free.



<https://www.canva.com/magic-home>

[Arts, Storytelling, Graphic projects](#)



Writefull



Writefull is automated writing and proofreading for academics, using the most advanced AI to date.

It gives language feedback on the text you write in your Word document, checking for correctness of grammar, word use, style, and more. It also offers a database with authentic language of scientific texts, which you can browse and incorporate into your text.



<https://x.writefull.com/>

[All school subjects](#)



Duolingo



Duolingo is an educational application used for learning foreign languages. It is designed to be intuitive and fun, employing a variety of interactive exercises, games, and quizzes to help students learn vocabulary, grammar, and language skills. It can be used as a supplementary tool to enrich language teaching in the classroom. Additionally, teachers can monitor students' progress through the app's built-in tracking system and use the data to tailor teaching to individual student needs.



<https://www.duolingo.com/>

[Foreign language subjects](#)



Read&Write



Read&Write is a literacy support tool designed to assist students with reading, writing, and comprehension. It offers features such as text-to-speech, word prediction, dictionary support, and highlighting tools.

This software aims to improve accessibility and inclusivity in the classroom by providing support for students with diverse learning needs, including those with dyslexia, ADHD, and other learning disabilities.

Teachers can use Read&Write to create accessible learning materials and provide additional support to students during reading and writing activities.



<https://www.texthelp.com/products/read-and-write-education/>

[Native language, reading, writing, maths, and science](#)



ABCMouse



ABCMouse is an online educational platform designed for early learners in primary schools. It provides a wide range of interactive activities, games, and lessons covering various subjects such as maths, reading, science, and art. The platform offers a structured curriculum aligned with educational standards, making it easy for teachers to integrate into their lesson plans.

With engaging animations, songs, and activities, ABCmouse helps students develop essential skills while keeping them entertained and motivated to learn. Teachers can easily track students' progress and customise learning paths to meet individual needs.



<https://www.abcmouse.com/teachers>

[All school subjects](#)



Khan Academy Kids



Khan Academy Kids is an educational platform designed for young children, typically in the early primary school grades.

It offers a wide range of interactive lessons, activities, and games covering subjects like maths, reading, and social-emotional development.

The platform is tailored to the needs and interests of young learners, providing engaging content presented in a child-friendly manner. Through Khan Academy Kids, students can explore various topics at their own pace, reinforcing key concepts and skills while having fun.



<https://learn.khanacademy.org/khan-academy-kids/>

[Maths, reading, social studies, and science](#)



GeoGebra



GeoGebra is a free online maths platform that makes learning and teaching maths more engaging and effective. With its interactive tools and features, students can explore and visualise maths concepts in new and exciting ways.

GeoGebra is also a great tool for collaborative learning, allowing students to work together on projects and assignments.



<https://www.geogebra.org/>

[Maths, Geometry, Science](#)



Rewordify



Rewordify is a web-based tool designed to simplify and clarify text. It works by analysing written passages and replacing complex words or phrases with simpler alternatives, making the text more accessible and easier to understand.

This tool can be particularly useful for primary school teachers in various subjects, as it helps to break down complex language barriers and make content more comprehensible for young learners.

Teachers can input any text into the platform, such as reading passages, instructions, or educational materials, and then use the simplified version to support their teaching objectives. With Rewordify, educators can effectively cater to diverse learning needs and ensure that all students can access and comprehend the content presented to them.



<https://rewordify.com/>

[Native language](#), [Foreign language](#), [History](#), [Geography](#), [Science](#)

QUIZ/ASSESSMENT GENERATORS



QuestionWell



QuestionWell generates an endless supply of questions so teachers can focus on what matters. Just input some reading, and the AI will write essential questions, learning objectives, and aligned multiple choice questions.



<http://questionwell.org/>

[All school subject](#)



Conker



Conker lets you create multiple-choice, read-and-respond, and fill-in-the-blank quizzes for students at a variety of levels on specific topics. It will also let you copy/paste reading material to generate quizzes.



<http://conker.ai/>

[All school subjects](#)



Quizlet



Quizlet is an online learning platform that allows educators to create customizable study sets consisting of digital flashcards, quizzes, and games. It is user-friendly and intuitive, making it accessible for primary school teachers to use in their classrooms.

Teachers can easily create study materials tailored to their students' needs, covering a wide range of subjects such as vocabulary, maths facts, science concepts, and more. Additionally, Quizlet offers various engaging learning activities and games that make studying fun and interactive for students. With its simple interface and diverse features, Quizlet is an effective tool for reinforcing learning and promoting active engagement in primary classrooms.



<https://quizlet.com/>

[All school subjects](#)



Prodigy Game



Prodigy Game is an educational platform designed to help primary school students improve their maths skills through engaging and interactive games.

It offers a variety of maths questions and challenges that are aligned with curriculum standards. Teachers can use Prodigy Game in their classrooms to supplement traditional maths instruction, reinforce key concepts, and provide personalised learning experiences for students. The platform tracks students' progress and provides real-time feedback, allowing teachers to identify areas of strength and weakness and tailor instruction accordingly.



<https://www.prodigygame.com/main-en/teachers/>

[Maths](#)



Edulastic



Edulastic is an online platform designed to create and administer quizzes and assessments for students. It offers a user-friendly interface for teachers to create customised quizzes tailored to the needs of their primary school students. Teachers can easily create various types of questions, including multiple-choice, open-ended, and interactive questions, to assess students' understanding and knowledge across different subjects.

Teachers can access pre-made assessments aligned with common core standards or create their assessments from scratch.

Edulastic also offers features for real-time monitoring and assessment, allowing teachers to track student progress, identify areas for improvement, and provide targeted support. Additionally, it provides detailed analytics and reports to help teachers analyse student performance and make data-driven instructional decisions.



<https://app.edulastic.com/login>

[All school subjects](#)

LESSON PLANS

LESSON PLANS USING CHATGPT

Discovering AI and ChatGPT



6-8 hours



English, Maths, Italian, History and Civics



- Understanding the concept of AI
- Understanding the function of ChatGPT
- Acquiring skills in using ChatGPT for creative writing tasks such as poems, stories, or songs
- Developing proficiency in using ChatGPT to obtain information on different subjects
- Learning to formulate prompts effectively
- Practising asking questions
- Practising requesting explanations and examples



8 years old



1. Brainstorming Session: The teacher leads a group discussion with the class. The teacher writes the word 'AI' in the centre of the board and encourages students to share what they already know about it. Together, they explore what AI is and talk about how it can be used in different ways.

2. ChatGPT exploration (part 1): The teacher introduces the term "CHAT" and explains its meaning in the native language. Then, the teacher guides the students to ask various questions to ChatGPT, ranging from personal inquiries to academic topics like maths problems and English vocabulary such as “Can you help us solve these maths problems?”, “Could you provide us with vocabulary related to clothing?”, “Can you role-play as a dinosaur?”.

3. ChatGPT exploration using Interactive Whiteboard (part 2): The teacher demonstrates to students how ChatGPT can assist them in problem-solving. The teacher initiates this by searching for the terms “AI”, "chatbot", and “ChatGPT” and asking questions to ChatGPT such as: “What is AI?”, “What can I do with AI?”, “What is ChatGPT?”, “What can I do with ChatGPT?”. The teacher trains the chatbot by writing answers as if responding to an 8-year-old. Finally, the teacher reads the answer aloud to the children. Together, they review the answers and select the clearest and simplest definitions for AI and ChatGPT.

4. Creation of Content for the LAPBOOK (English Vocabulary): The teacher guides the production of English Vocabulary with ChatGPT. The teacher copies and pastes the answers and definitions of AI and ChatGPT generated by ChatGPT onto a Google Doc. Then, the content will also be transcribed by the children in their notebooks. English vocabulary is introduced as each question and definition is translated from the native language to English.

5. Creation of the LAPBOOK: The teacher guides the creation of the LAPBOOK by incorporating the collected English vocabulary generated through ChatGPT interactions regarding the definition of AI and ChatGPT. The teacher uses an A4 cardboard and divides it into three parts. In the centre, students have placed the questions and answers posed to ChatGPT, Cutting out the text from their notebook, and on the side flaps, icons of AI and ChatGPT have been affixed.

6. ChatGPT exploration using Interactive Whiteboard (part 3- Maths problems): The teacher guides the production of Math Problems with ChatGPT. The teacher asks Chat GPT to translate some divisions. For example: “Mario has 36 biscuits and wants to divide them equally between him and his 4 friends. How many cookies will each receive?”. The answers generated will be transcribed in a Google document. Additionally, the maths problems proposed will be also translated into English.



Observations and production of a Lapbook about AI and ChatGPT.



Teachers will explain to students that ChatGPT is useful as pupils, but it is a machine and we have to use it carefully and be aware of its limits.

Writing assistance and Language Learning area



1 hour



Maths (Negative Numbers)



- Recognize and identify positive and negative numbers, and comprehend the significance of the '+' and '-' symbols.
- Compare positive and negative numbers effectively.
- Understand the various real-life situations where negative numbers are encountered.
- Enhance their technological proficiency by using ChatGPT to access information.
- Practice formulating questions and using ChatGPT to obtain answers.
- Develop writing and reading comprehension skills.



12 years old



1. Organisational part: The teacher begins by taking attendance and then introduces the topic and objectives to the students. Each student is asked to write down the topic in their notebooks.

2. Introduction (10 minutes): The teacher displays different numbers on the board, both positive and negative, for example, 5, -3, -8, 10, -2. The teacher asks the pupils to identify whether each number is positive or negative and to explain the meaning of the '+' and '-' symbols. The teacher engages the students in a discussion about real-life scenarios where positive and negative numbers are encountered, by asking: "Can you list examples of situations from everyday life where we encounter positive and negative numbers?"

3. Practical exercise (15 minutes): The teacher divides the class into groups of three, and each group receives a set of cards containing different numbers, both positive and negative. The task for each group is to compare two numbers from the set and determine which one is bigger. The teacher introduces ChatGPT as a tool that can provide explanations, answer questions, and offer assistance with comparing numbers. The teacher asks the groups to use ChatGPT to seek clarification and guidance when comparing numbers from the provided set of cards to justify their answers and clarify any doubts. Examples of interaction with ChatGPT could be:

- Asking Questions: Students ask ChatGPT questions related to comparing numbers, such as "How can I compare two numbers to determine which is bigger?" or "Can you give examples of situations where a positive number is greater than a negative number?"
- Requesting Step-by-Step Instructions: Students can request ChatGPT to provide step-by-step instructions on how to compare two numbers. For example, they might ask, "Could you describe how to compare two positive numbers?"

- **Seeking Assistance with Specific Problems:** If a group encounters difficulty comparing certain numbers, they can ask ChatGPT for help. For instance, they might inquire, "We have a problem comparing -5 and 8. Can you help us?"
- **Seeking Justification:** After receiving a response from ChatGPT, students can ask for justification or clarification. For example, they might ask, "Can you explain why 8 is bigger than -5?"

The teacher guides the entire process and discusses with students the different cases and conclusions.

4. Presentation (10 minutes): The teacher asks groups to present their results and reasoning to the class. Using ChatGPT, students look for answers to the example questions about positive and negative numbers, such as scenarios involving temperatures, bank balances, and historical events. The questions could be: "What are the lowest temperatures we can encounter in our daily lives? Can you give examples of places where the temperature can be negative? What does a negative balance in a bank account mean? What situations can lead to debt or overdraft? Did you know that the altitude above sea level can be negative? Where in the world are places located below sea level? Under what circumstances do we use negative numbers when talking about historical events? Do you know examples of years before our era? If a car park on level -2 and then takes the lift four levels up, on which floor will it finish its journey? Can you calculate this?"

5. Summary (5 minutes): The teacher recaps the main concepts covered in the lesson. The importance of understanding positive and negative numbers in both mathematics and everyday life is emphasised.

6. Homework: The teacher assigns homework, asking students to prepare three questions about negative numbers and their applications in daily life. Pupils are to check their answers to the prepared questions using ChatGPT.



Questions: In-class questions to check understanding.

Discussions: Engaging students in dialogue to assess understanding.

Teacher observation: The teacher observes the student's engagement during the lesson, their participation in the discussions, their activity during the practical exercises, and their interaction with ChatGPT. The teacher observes how well the groups worked together, what arguments they presented when comparing negative numbers, and how effectively they used ChatGPT.



When working in groups and interacting with ChatGPT, students should be guaranteed a safe environment where they can freely express their thoughts and participate in discussions without fear of ridicule or negative consequences.

When using ChatGPT or other technologies, care should be taken and students' privacy should be protected. The teacher should ensure that no students' private information is shared with unauthorised parties and that all interactions with the technology are done following data protection legislation.

The teacher should maintain worldview neutrality and avoid imposing their views on pupils. It is useful to provide space for different perspectives and experiences and to allow students to develop their conclusions based on the materials provided.

The assessment process should be fair and equitable for all students. The teacher should take into account individual differences in students' levels of engagement, abilities and learning needs. The lesson should also allow for the development of students' interpersonal skills such as cooperation, communication and empathy. The teacher should promote respect for other opinions and encourage constructive discussion and collaboration.

We meet famous people from the science



3-4 hours



Biology, chemistry, physics, and technique



- Understand the scientific achievements of famous scientists
- Familiarise with the biographies of famous scientists.
- Develop creativity through the creation of a character (puppet) using a clothes hanger.
- Develop proficiency in using Chat GPT to obtain information
- Collaborate effectively with peers in conducting the activity.
- Enhance presentation skills by performing the roles of interviewer and scientist



11 years old



1. Preparing a ChatGPT programme: The teacher sets up a ChatGPT programme on the classroom computers or tablets. Students log in to the Chat GPT website using a special school email address provided by the teacher.

2. Dividing Students into Pairs: The teacher divides the students into pairs to work collaboratively.

3. Conducting an Interview with a Famous Scientist using ChatGPT: The teacher guides students in interviewing a famous scientist using ChatGPT. Together with the teacher, students create questions (prompts) designed to elicit interesting responses from ChatGPT in the role of a scientist. Students write down the questions and verify the accuracy of the answers provided by ChatGPT to create a coherent interview script. For this, they can cross-reference the information with reliable sources on the web or use resources available in the school library. Students save the interview link and print out the transcript. Then, they attach the printed interview to the puppet or character they have created.

4. Creating a Puppet of the Scientist: The teacher guides students to prepare a "puppet" representation of the scientist using materials such as hangers, clothes, and other craft supplies, including the interview transcript.

5. Presenting the Interview: Students perform the interview script, taking on the roles of interviewer and scientist, using the puppet they created. The teacher facilitates the presentation, ensuring each student has a chance to participate.

6. Displaying the Works: The interviews, along with the puppet representations, are displayed in the school corridor or hall for others to view and enjoy.



"Questionnaire" - Suitcase and Garbage Bin Method

Setup: The teacher displays a picture of a suitcase and a trash can in the school corridor.

Procedure: Students are provided with markers to write their thoughts. On the suitcase, students write what they liked and what they remembered about the event. On the garbage bin, students write what they didn't like and what they think needs to be changed in the future.

Purpose: This allows students to provide feedback on the lesson in a descriptive manner, highlighting both positive aspects and areas for improvement.



Students are informed about the need to verify information. Students will consider the responsibility of scientists for their inventions and their negative use by future generations.

Exploring the Solar System with ChatGPT



1,5 hours



Natural Sciences, Astronomy



- Understanding the concept of AI
- Understanding the function of Chat GPT
- Understanding of the solar system, including the names of planets, the Earth's orbit around the Sun, and other celestial phenomena.
- Developing inquiry skills by using ChatGPT as a research tool to explore specific topics or phenomena within the solar system and brainstorming questions to guide their exploration.
- Developing communication skills by presenting their findings and artwork to their family or classmates
- Developing collaboration skills and the capacity to work in small groups



8-12 years old



1. Introduction: The teacher begins by engaging students in a discussion about their interests in space and the solar system. The teacher introduces the concept of artificial intelligence (AI) briefly, emphasizing its role in enhancing learning experiences. The teacher explains that today's activity will focus on exploring the solar system with the assistance of ChatGPT, an AI-powered tool.

2. Understanding ChatGPT- Interactive session: The teacher introduces ChatGPT as a tool for accessing information about the solar system. The teacher logs in to ChatGPT and provides a brief demonstration of ChatGPT's capabilities, showing students how ChatGPT can be used to answer questions and deepen their understanding of the solar system. For example, the teacher can ask "What are the names of the planets in our solar system?" or "How does the orbit of Earth around the Sun affect seasons?". The teacher then encourages students to actively participate by suggesting questions they would like to ask ChatGPT, focusing on aspects they are curious about. As ChatGPT responds to each question, the teacher fact-checks the information provided by referring to a textbook or reputable internet sources. This facilitates discussions about the accuracy and significance of the information.

3. Exploring the Solar System with ChatGPT: The teacher divides students into small groups and provides them with tablets or computers with access to ChatGPT. The teacher guides how to formulate clear and specific questions to deepen their understanding of the solar system using ChatGPT and instructs each group to explore specific topics that interest them. The teacher encourages students to ask questions related to their chosen topics using ChatGPT, considering what they want to learn more about or clarify. The teacher circulates among the groups to provide guidance and assistance as needed, focusing on facilitating their exploration of the solar system through questioning.

4. Reflection: The teacher brings the groups back together and has each group share some of the questions they designed for ChatGPT and the insights they gained through their exploration. The teacher facilitates a discussion about the process of exploring the solar system using ChatGPT as a research tool. The teacher emphasises the importance of critical thinking and inquiry skills in deepening understanding of the solar system, highlighting ChatGPT as one of many tools available for exploration.

5. Homework instructions for the students: The teacher asks students to choose a specific aspect of the solar system that interests them, such as a planet, moon, or celestial phenomenon. The students will use ChatGPT to ask at least three questions about their chosen topic, focusing on understanding its characteristics, significance, or related scientific concepts. The students have to write down the answers provided by ChatGPT for each question and create a visual representation (e.g., drawing, model, or poster) showcasing their chosen topic and the information obtained from ChatGPT. After that, the students will have to share their findings and artwork with their families or classmates, explaining the significance of their chosen topic within the solar system.



The assessment procedures for the activity involve the following steps:

- **Participation and Engagement:** Observe students' active participation in asking questions, sharing ideas, and engaging in discussions, both individually and in groups.

- **Quality of Questions:** Assess the clarity and relevance of the questions students design for ChatGPT, focusing on their ability to elicit meaningful responses and further exploration of the solar system.
- **Reflection Sessions:** During reflection sessions, evaluate students' ability to articulate their experiences and insights gained from the activity, demonstrating their understanding of the solar system and the role of AI.
- **Homework Tasks:** Review students' completion of homework tasks, focusing on the accuracy of recording ChatGPT's answers, creativity in artwork, and the clarity of information shared with peers.

Peer Assessment: Encourage students to provide constructive feedback to their classmates, assessing their ability to offer meaningful insights and suggestions for improvement.



Throughout the activity, it is essential to uphold principles of privacy and data protection, ensuring that student's personal information is safeguarded and that data collection adheres to relevant regulations. Educators must also be vigilant about potential biases present in AI algorithms, fostering awareness among students and encouraging critical evaluation of information to mitigate the impact of bias. Transparency and accountability are crucial, necessitating clear explanations of how AI chatbots function and the limitations of their capabilities, as well as empowering students to verify information from reliable sources.

Additionally, promoting digital literacy skills and responsible use of technology is essential, emphasising informed consent, supervision, and the avoidance of harm in student interactions with AI chatbots. Furthermore, fostering an environment of respect and inclusivity is paramount, ensuring that interactions with AI chatbots align with principles of empathy, kindness, and tolerance. Continuous reflection and improvement are key, as educators must stay informed about ethical implications and best practices for integrating AI technology into educational settings, ensuring that the activity promotes responsible and ethical use of AI technology while fostering learning and critical thinking skills in students.

LESSON PLANS USING CANVA

A Day in the life of Ancient Rome



20 hours



Mother Language, Art, Civic Education, Foreign Languages, History



- Master the expressive and argumentative tools essential for managing verbal communicative interaction in various contexts.
- Produce simple texts for different communicative purposes.
- Master instrumental reading aloud, attending to its expression.
- Read narrative texts by grasping the topic being discussed and identifying the main information and its relationships.
- Produce simple functional and narrative texts related to concrete purposes by working in groups.
- Identify simple links between information with knowledge found from the text or already possessed.
- Apply simple strategies for organising information; identify the main information in a narrative text; divide a text into sequences; construct short captions.
- Develop digital literacy skills by using Canva and AI tools (Bing App) to select appropriate images and create multimedia presentations.
- Enact correct behaviour in work, and social interaction.



- Listen to and respect others' points of view.
- Respect one's equipment and common or others' equipment.
- Take on assignments and complete them responsibly.
- Participate and cooperate in collective work with responsibility.



10 years old



1. Introduction: First, the teacher reads a historical text about daily life in ancient Rome and leads a brainstorming session about keywords with the students.

2. Dividing Students into groups: The teacher divides the students into groups (approx. 5-7 students per group). The teacher assigns specific tasks to each group: drafting the beginning, unfolding, and conclusion of the story.

3. Group activity: The teacher assists the students in identifying and writing down the main sequences of the text based on the assigned tasks. Each group then divides their assigned portion of the story into narrative sequences and writes captions for each sequence independently.

4. Presentation: The sequences and captions are then presented to the class.

5. Canva exploration: The teacher begins by demonstrating the proper procedure for working on Canva on the interactive whiteboard. This includes providing examples of keywords to use for generating images and allowing students to explore additional keywords for use in Canva.

Next, the teacher logs into the school account to access the program and explains how the image generator functions. Throughout this process, the teacher assists each group in using the Canva app and Bing app to locate suitable images for their multimedia representation. These images are arranged in chronological order according to the story and are accompanied by brief caption texts in English.

6. Canva multimedia presentation: Using the images and captions, students create a short multimedia presentation using Canva's "Create a Presentation" feature. Each group uses one computer for every two students and chooses templates using the Tool Editor. They also insert intermission animations between slides under the teacher's supervision.

7. Open discussion: After completing the multimedia presentations, guided discussions and reflections on the use of AI are conducted. The teacher facilitates the discussion, focusing on the problems encountered by the students in managing Canva, positive aspects, and potential new uses of the tool for addressing curriculum topics. School presentation: Selected students have the opportunity to present multimedia products in other parallel classes to encourage the use of this tool among peers.



Formative assessment through teacher observation and/or written text produced by students.

Written text:

Each student produces a short paper detailing the entire process, guided by the teacher. The teacher provides guiding questions to help students write the paper and uses the feedback to assess their performance.

Brief examples of some guiding questions:

Did you enjoy using Canva?

Did the images you created by entering keywords within the Tool reflect your expectations?

Did you enjoy working in groups?

Did you like the story you created?

Would you like to reuse Canva for other activities?

What problems did you encounter during the work?

Additionally, the teacher diagrams the proper sequence of the procedure for working on Canva on the interactive whiteboard before students use the programme.



The activity respects the teaching plan and its use is correct.

Power the appearance with AI



45 minutes



English as a foreign language (describing appearance, describing pictures, clothes, accessories).



- Revise English vocabulary related to clothing, accessories, and appearance
- Use both present continuous tense and present simple appropriately
- Gain familiarity with AI-powered tools, specifically Canva applications (Anime Style and Dream Face), for creating visual content.
- Collaborate effectively with peers in group activities to brainstorm ideas, create visual content, and animate images using Canva.
- Enhance presentation skills by effectively describing and explaining their visual creations to the class.



12-14 years old



1. Introduction (Warm-up) (5 minutes): The teacher starts the class with a warm-up activity, asking students questions such as: "Do you enjoy designing? Do you think it helps to develop your creativity? How do you feel when you create something?". Then the teacher initiates a brainstorming session, asking students questions such as: "Do you know any tools that can help you create something new, that listens to you and does what you said/wrote?" Finally, the students get the idea of using AI-powered tools available online e.g. Canva applications.

2. Canva Tutorial (5 minutes): The teacher provides a demonstration to students on how to use Canva applications, such as Anime Style and Dream Face, to create an image as described by the teacher.

3. Production - Group Activity (15 minutes): The teacher divides students into 2 groups: In the first group, students work in pairs on one computer to create a picture of a person using Canva. They brainstorm and provide as many prompts as possible. Students write the prompts in English. Then, they attempt to animate the picture and download it. In the second group, also working in pairs on their computers, students design T-shirts or jumpers featuring an image of a person using Canva. They brainstorm and provide as many prompts as possible. Students write prompts in English before attempting to animate the picture and download it.

4. Presentation (15 minutes): Each pair presents their visual creations to the class, describing the content of the picture, providing details, and explaining the process they used to create it. Students use English all the time.

5. Summary (5 minutes): The teacher summarises the key points of the lesson, including revising the names of clothes, accessories, and vocabulary related to appearance. Students are encouraged to continue exploring and using Canva for language learning and creative projects. Homework assignments may include creating additional vocabulary visuals or practising using the vocabulary in sentences.



Assess students' understanding of the vocabulary through their participation in group activities and presentations.

Evaluate the creativity and clarity of students' visual representations created using Canva.



The teacher needs to conduct a brief discussion on the use of visuals in language learning and the effectiveness of Canvas AI-powered applications, just like a helpful tool that we control/handle. It is not to replace our thinking.

Exploring ancient civilizations



2 hours



History (Ancient civilizations)



- Understanding the characteristics and significance of ancient civilizations such as Egypt, Greece, or Rome, including key facts, dates, and descriptions related to each civilization.
- Understanding the geographical, political, social, and cultural aspects of these ancient civilizations.
- Developing critical thinking skills by comparing and contrasting the similarities and differences among the chosen civilizations.
- Developing collaboration and teamwork skills by working together in small groups to research, generate visuals, and create collages using Canva's AI design feature.
- Developing creative expression by selecting and arranging visuals, adding text, and possibly creating timelines to convey information about their chosen ancient civilization in a visually appealing and informative manner.
- Developing digital literacy by using Canva's AI design feature to generate visuals and apply them in a hands-on collage creation activity.



11-13 years old



1. Introduction: The teacher begins the lesson by discussing the concept of ancient civilizations with the students. Engaging them in a brief brainstorming session, students identify their prior knowledge of ancient Egypt, Greece, or Rome. Subsequently, the teacher introduces the lesson's primary focus: exploring the characteristics and significance of these ancient civilizations.

2. Group formation: The teacher divides the class into small groups, with each group focusing on one of the chosen ancient civilizations (Egypt, Greece, or Rome). The teacher assigns each group a specific area within the classroom where they will work together throughout the lesson.

3. Canva tutorial: The teacher provides students with a brief tutorial on how to use Canva's AI design feature, focusing on how to give prompts and generate visual designs. The teacher demonstrates how Canva's AI feature can be used to create visual presentations or posters related to historical topics.

4. Generating visuals: The teacher instructs students to use Canva's AI design feature to generate a variety of visuals (images, icons, illustrations) based on prompts related to their chosen civilization. Encourage students to explore different prompts and experiment with generating visuals that represent the key characteristics and aspects of their chosen civilization.

5. Printing Canva visuals: Once students have selected their desired visuals, the teacher guides them through the process of printing out the visuals from Canva. The teacher assists as needed to ensure all students can successfully print their visuals.

6. Group activity: Collage creation: The teacher instructs each group to collaborate and organise the printed Canva visuals to create a collage on large sheets of paper or poster board. The teacher encourages students to arrange the visuals in a visually appealing layout.

7. Adding text and timelines: After creating the collage, students will add text boxes and possibly timelines to provide additional information about the ancient civilization. The students can research in their textbooks, notes, or online encyclopaedias to find desired information and dates. The teacher encourages students to include key facts, dates, and descriptions to enhance their presentation. Then, the teacher facilitates discussions within groups to ensure that the text and timeline complement the visuals effectively.

8. Presentation of collage: Each group presents their completed collage to the class, explaining the prompts they used, showcasing the Canva visuals, and discussing the added text and timeline. The teacher encourages students to engage with their classmates during the presentations by asking questions.

9. Reflection and discussion: The teacher leads a class discussion on the experience of creating collages using Canva's AI design feature and the hands-on process of collage creation. Ask students to reflect on the effectiveness of AI technology in generating visuals and how it enhanced their understanding of ancient civilizations. Then, the teacher encourages students to share insights and lessons learned from the project.



The assessment procedures to follow include:

1. Evaluating the creativity and organisation of students' collages, which entails assessing the arrangement of visuals, the addition of text, and creation of timelines. This aspect focuses on the aesthetic appeal and structural coherence of the collages.
2. Assessing the accuracy and relevance of the information presented in the collages. This involves verifying the factual correctness of the content and determining its alignment with the topic of ancient civilizations.
3. Observing students' collaboration and teamwork skills during the group activity. This assessment criterion examines how effectively students communicate, cooperate, and contribute to the collaborative task.
4. Encouraging self-reflection by prompting students to formulate a brief reflection on their experience using Canva's AI feature and what they learned about ancient civilizations through the collage creation process. This allows students to introspect on their learning journey and articulate insights gained from the activity.



Remind students to use respectful and accurate language when providing information about ancient civilizations.

Foster an inclusive learning environment where all students feel supported and valued in their contributions to the project.

Encourage students to critically evaluate AI-generated visuals and consider the ethical implications of AI technology in historical representation.

LESSON PLANS USING TEACHABLE + DANCING WITH AI

Playing with shapes



10 hours



Maths, Civics, Foreign languages



- Identify and describe the characteristics of square, triangle, rectangle, and circle geometric shapes.
- Develop the ability to communicate mathematically using specific geometric terminology to describe shapes, properties, and relationships between shapes
- Apply knowledge of geometric shapes to recognize and classify shapes in everyday objects and surroundings.
- Gain familiarity with the Teachable Machine.
- Develop critical thinking and problem-solving skills through hands-on exploration of shape recognition technology.



7 years old



1. Introduction: The teacher begins the activity by introducing the four main geometric shapes: square, triangle, rectangle, and circle and presents their main characteristics. The teacher shows examples of each shape in real-life objects and encourages students to identify them.

2. Exploration: The teacher invites students, either individually or in groups, to collect photos or images of objects that represent the four main shapes. Students can create their own objects or find examples around the classroom. To facilitate this, the teacher may prepare materials before the activity and distribute them to various locations in the classroom. Subsequently, the teacher assists students in capturing images of the collected objects using school tablets or recording them using a webcam (with a white background to ensure only the object is visible, easing recognition).

3. Teachable Machine Education: The teacher introduces students to the Teachable Machine, a tool that allows for machine learning experimentation. Explain how this tool can be used to train a model to recognise shapes based on images.

4. Hands-on Activity in groups:

- a. The teacher assists students in uploading the collected images of squares, triangles, rectangles, and circles to Teachable Machine.
- b. The teacher guides students through the process of training the model by providing clear instructions on how to label and categorise the images.
- c. The teacher assists students in testing the application to see if it accurately recognises the shapes based on the training provided.

5. Reflection: The teacher facilitates a discussion where students reflect on their experience using the Teachable Machine. Encourage them to share observations and discuss any challenges they encountered.



Formative assessment through observation and/or surveying the students.



The activity respects the teaching plan and its use is correct

Geometric figures in the surrounding world



45 minutes



Maths



- Learn about different geometric figures such as squares, triangles, rectangles, and circles, understanding their basic characteristics and properties.
- Develop the ability to recognize these geometric shapes in everyday objects and surroundings, such as in buildings, signs, and natural elements.
- Understand similarities and differences between various shapes by sorting geometrical figures into sets based on shared attributes.
- Ability to define and discuss the properties of known geometric figures, including the number of sides, angles, and other defining characteristics.



6-7 years old



1. Preparing Teachable Machine (TM) Programme: The teacher set up the Teachable Machine programme on a computer or tablet. This tool can be accessed online without the need to log in. After creating the programme, it is recommended to download the link to provide recipients with access. Alternatively, the entire project can be saved to Google Drive, allowing for easy access and the ability to revisit it at any time.

The teacher guides the students through the process of adding image samples to the Teachable Machine. These image samples will serve as the training data for the machine-learning model. To do this, students can use the webcam to capture images of various objects representing different geometric shapes, or they can upload images from files. The teacher then assigns specific classes within the Teachable Machine to different shapes. For example, Class 1 could represent rectangles, Class 2 could represent circles, and so on. The photos of figures must be loaded in different positions, especially in a triangle. This helps the Teachable Machine learn to recognize different shapes.

2. Grouping Students: The teacher divides the students into small groups. This encourages collaboration and active participation among students.

3. Object Search Activity: The teacher assigns a task to the students to search for 7 objects within the classroom environment that represent different geometric shapes. For example, they may search for objects such as books (rectangles), balls (circles), and square tiles (squares).

4. Figure Recognition: The teacher instructs each group of students to approach the computer or tablet with Teachable Machine installed. They will then use Teachable Machine to identify and classify the geometric shape corresponding to a given object.

5. Sorting Shapes: After identifying the shapes, students will sort the objects into sets based on their shapes. For example, they may gather all rectangular objects together, all circular objects together, and so on.

6. Group Discussion: The teacher leads a whole-class discussion where students can share their findings and observations. The teacher encourages students to explore the characteristics and properties of each geometric shape, to discuss similarities and differences between shapes and to articulate why certain objects belong to specific shape categories.



Descriptive assessment of the correctness of actions.

Checking the correctness of solutions using TM and the correctness of grouping figures into sets. You can grade according to the school's grading system.



The topic and programme do not take into account ethical considerations

Dancing with AI - Understanding the human body, movement and AI integration



2 hours



Natural sciences (Human body)



- Better understanding of the human body, especially the role of muscles and bones
- Understanding the significance of movement in daily lives and interactions
- Enhancing teamwork and communication skills through group activities like the Project Bazaar and Charades
- Fostering creativity and imagination by miming movements and identifying their relation to bones and muscles.
- Getting familiar with Artificial Intelligence and its impact on movement



10-12 years old



1. Preparation: Before the lesson, the teacher should go through the Dancing with AI platform and get familiar with its content: <https://dancingwithai.media.mit.edu/>, especially with the released projects. The teacher also needs to prepare the necessary equipment, such as the projector, screen, and multiple computers with web cameras.

2. Introduction to Muscles and Movement with AI Technology: The teacher introduces the aim of the lesson which is focussed on reviewing students' knowledge about bones and muscles, using the Dancing with AI platform. The teacher initiates the lesson by inviting students to introduce themselves and share their favourite movements corresponding to their names, fostering excitement about exploring AI and movement. Following this, the teacher facilitates a discussion to review what students already know about bones and muscles, emphasising their structure and function in simple terms. Questions such as "What are bones?" and "What do muscles do?" are posed to encourage student participation and sharing of knowledge. Finally, the teacher explores with students technologies that recognize movements, such as Snapchat and Kinect, highlighting the importance of movement in communication.

3. Project Bazaar: The teacher can use [this presentation](#) to set up Project Bazaar stations around the room with various examples of projects using movement. The teacher divides students into equal-sized groups and rotates them through the stations. The teacher encourages an open discussion of the projects and their applications.

4. Charades activity: The teacher introduces the concept of movement in AI through a Charades Activity. The teacher shows slides from [this presentation](#) illustrating different movements. Students are asked to identify and name the movement being performed, relating them to the role of bones and muscles in executing those movements. The teacher invites students to mime their movements while classmates guess and encourages discussion on how different bones and muscles collaborate to produce various movements. Divided into groups, the teacher invites students to play the Charades game using the provided link: <https://movement-charades.glitch.me/>.

5. Understanding AI with Examples: The teacher explains to students what AI is (which is like a smart computer that learns) and that AI has three parts: input (like seeing or hearing), processing (thinking), and output (doing something). Then, the teacher shows how AI learns with examples:

- Gesture recognition: Like when your tablet knows when you're swiping or pinching to zoom.
- Activity recognition: Like when your fitness tracker knows if you're walking, running, or cycling.

The teacher invites students to review projects from the Project Bazaar, identifying input, processing and output. Show examples of AI systems, such as recognizing objects in images and sorting marshmallows.

6. Conclusion: The teacher highlights to students that they had the chance to solidify their understanding of the human body's mechanics, while also having fun exploring AI concepts. Summarise the key points from the activity and answer any questions students might have.



Observation during activities will serve as an effective evaluation method for the lesson. By attentively observing engagement, participation, and interactions during the introductory activities, project showcase, and Charades challenge, the teacher can assess their comprehension and level of interest.

Additionally, the teacher can hold a short discussion/reflection at the end of the lesson, where students can express their thoughts on what they learned and any questions they may have. These methods are easy to implement and provide valuable insights into student understanding and engagement with the lesson content.



- Emphasise the ethical use of AI and machine learning.
- Discuss potential biases and limitations of AI models.
- Encourage students to consider the ethical implications of AI applications in recognizing movement.
- Highlight the importance of privacy and consent when using technology in educational settings.

CASE STUDIES

CASE STUDIES - ITALY

Never-ending Story



CANVA app as a graphic design tool



The activity took place at the Primary school I.C. F.lli Trillini (Marta Russo plexus) in Osimo (Italy) and included 25 pupils from class 5°C, aged between 10 and 11.



The CANVA platform was used to produce a short fantasy story composed of sequences of images made with AI.

Pupils after reading some fantasy genre texts analysed their constituent parts.

They then began to invent a story completely independently, working out a plot and describing the various characters, settings and antagonists.

Writing this short story required collaboration from the whole class. Each pupil participated by putting his or her ideas to the scrutiny of all the classmates to make the story smooth and coherent.

The text was projected on the interactive whiteboard and underwent the final reworking process and was eventually printed.

Each pupil then researched the phrases or keywords to be inserted within the CANVA image generator.

The produced illustrations ordered in the right sequence formed a Visual storytelling and the narrative of the story from textual became iconographic thus changing the medium of expression.



Students, after receiving an explanation and gaining an understanding of how generative artificial intelligence is used within the platform, immediately showed considerable interest in the activity. The interface was intuitive, allowing students to create and edit images effortlessly without requiring extensive guidance.

Moreover, students acquired the following skills:

- Creative Writing: Students developed their creative writing skills by inventing a fantasy story independently, including plotting, character development, and setting creation.

Collaborative Skills: Collaborating with classmates to refine and improve the story promoted teamwork and cooperation.

- Communication Skills: Presenting ideas to classmates and discussing them helped students enhance their verbal communication skills.

- Digital Literacy: Using the CANVA platform to produce illustrations and incorporate keywords into images enhances students' digital literacy skills.

- Problem-Solving: Finding appropriate phrases and keywords to complement the story in the CANVA image generator required problem-solving abilities.

- Visual Storytelling: Creating a visual narrative from the textual story through illustrations demonstrated students' ability to convey ideas visually.

- Presentation Skills: Presenting the final story and illustrations to the class on the interactive whiteboard allowed students to practise their presentation skills.

The images produced by AI made the work more engaging because the pupils could visually immerse themselves in the story they created.

Very stimulating for the students was waiting for feedback from the AI when the command to produce the images was entered. They had fun experimenting by using keywords or phrases taken from their text, and after a few trials, they began to get the right feedback, creating images that were increasingly appropriate and consistent with the written story.

The images produced provided a powerful communication channel and allowed them to transfer the information from the text they had written in an extremely effective way.

The final product was received by the class with deep interest and great enthusiasm; many requested the referring teachers to repeat this activity in the future to create more new stories.

In conclusion, the use of artificial intelligence through this platform has enriched the educational experience of fifth graders, enhancing their creativity and promoting collaboration.

ChatGpt in Classroom



ChatGPT as a Google Chrome Extension



The activity took place at the Primary school I.C. F.lli Trillini in Osimo (Italy) and included 2 classes for 45 students aged between 8 and 9.



In this case study, the 2 classes involved created a LAPBOOK ABOUT AI and ChatGPT as final products.

At first, we visited a Museum in Osimo called “10-IO”, where several pictures created by AI were on display.

The children had the opportunity to explore AI technology and interact with a chatbot for the first time.

After the museum trip, the children divided into groups and created lists of questions to ask the chatbot. They were encouraged to ask questions on various topics, including school subjects and general curiosity. The activity aimed to challenge the chatbot and explore its responses. While the teacher guided the activity, the children were free to ask almost any question they desired.

At school, we conducted two brainstorming sessions, one before and one after the activity with the chatbot, to create mind maps about AI. We displayed these maps on a board. This activity aimed to determine what the children already knew about AI and to observe how their knowledge changed after the previous activities.

The entire class engaged in a discussion about instructions we could give to the chatbot, exploring the various questions we could ask it. This activity, led by the teacher, aimed to summarise and focus on the practical uses of the chatbot based on the answers it provided to the children's questions. The goal was to generate definitions to include in the Lapbook.

We explored the main uses of AI and how ChatGPT can assist us as both humans and children. This was done by searching for definitions on the web, but primarily by asking the Chatbot about AI and its potential uses.

Engaging in conversation with the ChatGPT app in the classroom, children discovered its utility in problem-solving, generating texts, explaining various topics, learning new words, and more.

With all the gathered information, the children, with the support of teachers, created a Lapbook in Italian. The content was also translated into English to provide practice with a foreign language.



- Technology Literacy: Students gained familiarity with AI technology, including interacting with a chatbot.
- Research Skills: Through activities such as brainstorming and searching for definitions online, students practised gathering information from various sources.
- Critical Thinking: Students were encouraged to formulate questions and challenge the chatbot, fostering critical thinking and problem-solving skills.

- Communication Skills: Engaging in discussions and presenting their findings in the form of mind maps and Lapbooks helped students develop their communication skills.
- Collaboration: Working in groups to create lists of questions, brainstorm ideas, and produce Lapbooks promoted collaboration and teamwork.
- Creativity: Students exercised their creativity by generating questions, creating mind maps, and designing Lapbooks.
- Language Proficiency: Translating content from Italian to English provided students with practice in a foreign language and enhanced their language proficiency.
- Cultural Awareness: Visiting the museum and engaging with AI technology provided students with exposure to different cultural and technological contexts, fostering cultural awareness.

CASE STUDIES - POLAND

Sightseeing Austria with ChatGPT



ChatGPT



The activity took place at the Primary School in Poland, grades 5, 6, 7 and 8, with students aged 12 to 15.



Students are going on a trip to Austria in June. They do not know much about this country, tourist attractions, and education. The teacher and students decided to ask ChatGPT for some tips to prepare them. Students need to get to know something interesting about food, tourist attractions, and schools. They describe the situation and ask for some tips.

ChatGPT gives them the answer:

Here are some tips and information for students aged 12-15 going on a trip to Austria:

- **Historical and Cultural Sites:** Austria is rich in history and culture. Make sure to visit attractions such as Schönbrunn Palace in Vienna, Hohensalzburg Fortress in Salzburg, and the Hofburg Palace. These places offer a glimpse into Austria's imperial past and architectural grandeur.
- **Music and Art:** Austria is famous for its classical music composers like Mozart, Beethoven, and Strauss. Consider visiting places like the Mozarthaus in Vienna or attending a classical music concert.

Additionally, explore the art scene in Vienna, which boasts museums like the Belvedere and the Leopold Museum.

- **Outdoor Activities:** Austria's landscape is breathtaking, offering opportunities for outdoor activities. Consider hiking in the Alps, visiting picturesque lakes like Hallstatt or Wolfgangsee, or even trying out winter sports if you're visiting certain areas.
- **Language:** German is the official language of Austria, so it might be helpful to learn some basic phrases before your trip. Locals will appreciate your effort to communicate in their language, even if they speak English as well.
- **Currency and Costs:** Austria uses the Euro (€) as its currency.
- **Local Cuisine:** Don't miss out on trying traditional Austrian dishes such as Wiener Schnitzel, Sachertorte (chocolate cake), Apfelstrudel (apple strudel), and various types of sausages. Exploring local cuisine is an essential part of experiencing a new culture.

What can you tell me about the system of education in Austria?

The education system in Austria is known for its high standards and emphasis on providing comprehensive education across various levels. Here are some key features of the Austrian education system:

1. **Compulsory Education:** Education in Austria is compulsory for nine years, typically from ages six to fifteen. This includes four years of primary education (Volksschule) followed by four years of lower secondary education (Hauptschule or Neue Mittelschule) and one year of lower secondary or pre-vocational education (Polytechnische Schule).

2. Dual Education System: Austria operates a dual education system that combines classroom instruction with practical training in a workplace setting. This system is particularly prevalent in vocational education and training (VET) programs, where students split their time between school and an apprenticeship in a company.

3. Higher Education: Austria has a well-developed higher education system with universities, universities of applied sciences (Fachhochschulen), and colleges offering a wide range of academic and professional degree programs. Admission to universities is generally based on completion of secondary education and passing a university entrance examination or meeting specific criteria for certain fields of study.

4. Inclusive Education: Austria is committed to inclusive education, providing equal opportunities for students with disabilities or special educational needs. Special education services and support are available within mainstream schools, and efforts are made to integrate students with disabilities into regular classrooms whenever possible.

Students ask ChatGPT to prepare a short quiz about Austria

Chat GPT responds: Of course! Here's a short and easy quiz about Austria:

What is the capital city of Austria?

a) Vienna b) Salzburg c) Innsbruck d) Graz

Which famous classical composer was born in Austria?

a) Ludwig van Beethoven b) Wolfgang Amadeus Mozart c) Johann Sebastian Bach d) Franz Schubert

Which Austrian dish consists of thin slices of veal coated in breadcrumbs and fried?

- a) Wiener Schnitzel
- b) Strudel
- c) Sachertorte
- d) Kaiserschmarrn

Which mountain range runs through western Austria?

- a) Alps
- b) Pyrenees
- c) Rockies
- d) Himalayas

The famous Lipizzaner horses, known for their performances at the Spanish

Riding School, are originally from which Austrian region?

- a) Styria
- b) Tyrol
- c) Carinthia
- d) Lipizza

Answers:

- a) Vienna
- b) Wolfgang Amadeus Mozart
- a) Wiener Schnitzel
- a) Alps
- d) Lipizza



All students get to know something interesting, can memorise fascinating facts, famous people and some tips about education in Austria. They have fun with the quiz and the way they talk to ChatGPT. The teacher doesn't need to prepare any information, saves a lot of time, and has fun with students.

Writing assistance and Language Learning area



ChatGPT



The activity took place at the Primary School in Poland, specifically in the eighth grade, where the students are approximately fifteen years old.



Introduction (5 minutes):

Introduce the topic of the lesson: spiraling debt.

Discuss the importance of debt and its impact on everyday life.

Lecture (10 minutes):

Multimedia presentation on the debt spiral, explaining how debt can grow over time and lead to serious financial problems.

Group discussion (10 minutes):

Discussion on ways to avoid debt and coping strategies. Students share their ideas and experiences.

Solving mathematical tasks (15 minutes):

Carry out a series of mathematical tasks related to debt, involving simple percentage calculations, interest, loan installments, etc.

Students work in pairs to solve the tasks and discuss their answers.

Calculating the total amount to be repaid on a loan:

A loan of £10,000 has been taken out for 2 years and the interest rate is 8% per year. Calculate the total amount to be repaid, including interest.

Calculating the amount of interest:

Jacek borrowed £5000 from a bank for a period of 6 months at a fixed interest rate of 6% per annum. Calculate how much interest Jacek will have to pay for the whole period of the loan.

Calculating the installment of a monthly loan:

Martha has taken out a loan of £15,000 for a period of 3 years, at a fixed interest rate of 7% per annum. Calculate the monthly loan installment, taking into account the repayment of both capital and interest.

Creating an interactive quiz using ChatGPT (15 minutes):

Support students in using ChatGPT to create an interactive quiz on debt. Students create questions and answers about debt to be used in the quiz.

Administering the quiz (10 minutes):

Students share their quizzes with the rest of the class.

Other groups of students attempt to answer the quiz questions.

Discussion of correct answers and discussion of the issues raised in the quizzes.

Here are five sample questions for an interactive debt quiz:

What are the potential consequences of paying off a loan late?

- a) Increase in debt
- b) Penalising with interest
- c) Reducing your creditworthiness
- d) All of the above

What is the interest rate?

- a) The rate paid by a bank for the use of credit
- b) The additional fees charged by a bank for repaying a loan
- c) The portion of the loan amount that must be paid as a fee
- d) A ratio that determines the cost of a loan to its value

How can you avoid spiraling debt?

- a) Regular debt repayment
- b) Careful budgeting
- c) Avoiding excessive use of credit
- d) All of the above

How do you calculate the interest on a loan?

- a) Amount of credit multiplied by interest rate and duration of credit
- b) Loan amount divided by interest rate
- c) Loan amount divided by the duration of the loan
- d) Loan amount multiplied by the interest rate

What is an installment of credit?

- a) The amount of money borrowed from the bank
- b) The monthly amount to be repaid, including capital and interest
- c) An additional fee charged by the bank
- d) The amount of interest charged by the bank

Summary (5 minutes):

Summary of the main concepts discussed in the lesson.

Encouragement to reflect on their own financial habits and ways to avoid spiralling debt.

Homework:

Write a short essay on strategies for avoiding debt.



Students will have a fuller understanding of the meaning of debt and its impact on personal finances and the economy.

Through practical mathematical tasks related to credit, pupils will acquire the skills to calculate interest, and credit installments and understand how the financial system works.

The lesson will help students understand the consequences of paying off loans late and other adverse financial practices, enabling them to make more informed financial decisions in the future.

Pupils will be more aware of the importance of budgeting, saving, and avoiding over-indebtedness.

Using ChatGPT to create an interactive quiz will help students learn to use modern technology to solve problems and gain knowledge.

Working in groups to solve problems and discuss personal finance will encourage students to collaborate and exchange ideas.

CASE STUDIES - CZECH REPUBLIC

Language and culture comic creations with Canva's AI features



Canva



The activity was implemented at the Primary school ZŠ Janáčkovo náměstí Krnov in Czech Republic, with students aged 11-12 years old.



This activity can be implemented as a self-directed learning session.

Introduction:

Students engaged in this creative exploration of language and culture by crafting comic strips with Canva. The aim was to enhance vocabulary retention, language comprehension, and cultural understanding interactively and enjoyably.

In preparation for this project, the foreign language teacher introduced the idea of using Canva to create comic strips as a way to reinforce language learning and cultural exploration. Students were familiarised with the basics of comic strip creation and the AI features available on Canva through a brief tutorial session.

Implementation:

During the execution phase, students were divided into pairs or small groups to collaborate on their comic strip projects. Each group was tasked with selecting a language concept or vocabulary theme relevant to their foreign language curriculum.

Using Canva's user-friendly interface and AI features, students designed comic strip panels, populated them with characters, and added dialogue and captions in the target language. They incorporated cultural nuances and scenarios into their comic strips, drawing inspiration from real-life situations and cultural contexts discussed in class. The creative process involved brainstorming, drafting, editing, and refining their comic strips to effectively convey language concepts and cultural themes.

Once completed, students presented their comic strip creations to the class. During the presentations, each group explained the language concepts and cultural contexts depicted in their comic strips, showcasing their understanding and creativity. Classmates engaged in active listening and provided feedback, fostering a supportive and collaborative learning environment.



- Improved language proficiency
- Cultural awareness
- Engagement and creativity
- Collaborative learning
- Presentation skills

The language and culture comic creation project using Canva proved to be a dynamic and effective approach to language learning and cultural exploration. By leveraging technology and creativity, students engaged actively in the learning process, resulting in meaningful and memorable learning experiences that transcended the boundaries of the classroom.

Through the process of creation, presentation, and reflection, students demonstrated enhanced language comprehension and vocabulary retention. The use of Canva empowered them to express themselves visually and develop their design skills while reinforcing language learning.

Collaborative teamwork encouraged peer learning and communication skills development, as students exchanged ideas and collaborated on their comic strip projects. The integration of cultural elements deepened students' cultural awareness and appreciation, fostering cross-cultural understanding and empathy.

Interactive learning about science with ChatGPT



ChatGPT



The activity was implemented at a science and digital technology-oriented summer camp in Czech Republic with children aged 11 and more.



This activity can be implemented as a self-directed learning session.

Introduction:

During a summer camp focused on digital technology and science, John, an enthusiastic elementary school student, was introduced to ChatGPT as one of the tools besides textbooks, encyclopedias, and educational videos that can be used to enhance knowledge on specific topics. With guidance from his teacher on using ChatGPT independently, John started an interactive session to improve his understanding of some basic scientific concepts.

Implementation:

John and his teacher provided ChatGPT with written learning materials about concepts such as the solar system, states of matter, simple machines, and the water cycle. Afterward, John asked ChatGPT to generate questions based on the learning content.

The session with ChatGPT:

ChatGPT: "Great to have you here, John! Let's kick it up a notch. Can you tell me which planet is known as the Red Planet?"

John: "Is it Mars?"

ChatGPT: "Spot on, John! Mars is indeed known as the Red Planet due to its reddish appearance. Now, let's keep the momentum. Can you name a state of matter that takes the shape of its container but has a definite volume?"

John: "Hmm, I'm not sure."

ChatGPT: "No worries! The answer is liquid. Liquids like water and juice take the shape of whatever container they're in, but they still have a fixed volume. Now, tell me, what do we call the process of water turning into vapour and rising into the air?"

John: "Is it evaporation?"

ChatGPT: "Exactly! Evaporation is the process where water changes from a liquid to a gas and rises into the air. You're doing great, John. Now, let's delve a bit deeper. Can you name a simple machine that helps us lift heavy objects with less effort?"

John: "Is it a lever?"

ChatGPT: "Good guess, but not quite! The correct answer is a pulley. Pulleys help us lift heavy objects by changing the direction or magnitude of the force needed. Now, let's explore a bit more. Can you name a natural satellite that orbits the Earth?"

John: "Is it the Moon?"

ChatGPT: "Absolutely right! The Moon is Earth's natural satellite, and it orbits around our planet. You're navigating through these questions really well, John!"

ChatGPT: "Now, let's imagine you're learning about the water cycle. Can you tell me what we call the process where water vapour cools and turns back into liquid water?"

John: "Um, is it condensation?"

ChatGPT: "Absolutely! Condensation is when water vapour cools down and changes back into liquid water, forming clouds. You've demonstrated excellent knowledge today, John. Well done on tackling these engaging questions!"



Better understanding of how to use ChatGPT to revise for an exam and understand specific topics.

Collective revising for a chemistry exam with ChatGPT



ChatGPT



The activity was implemented at the Primary school ZŠ Janáčkovo náměstí Krnov in Czech Republic, with students aged 10 – 12 years old.



This activity can be implemented as a self-directed learning session.

Introduction:

A group of 11-year-old students prepared for an upcoming exam on basic chemistry, a topic they had been exploring during their science class. With ChatGPT serving as their digital study companion, these students experienced a collaborative journey to solidify their understanding and ready themselves effectively for the exam.

Implementation:

At the end of a regular science class, the teacher allocated 15 minutes for students to engage with ChatGPT and review key concepts about basic chemistry. Students used their textbooks and notes and gathered in small groups to interact with ChatGPT. They were encouraged to compare the information provided by ChatGPT with their class materials and consult any discrepancies with their teachers.

As students interacted with ChatGPT, they worked collaboratively to formulate questions, seek clarification, and deepen their understanding of basic chemistry.

ChatGPT served as a valuable resource, providing explanations and additional insights to support their exam preparation efforts. After reviewing with ChatGPT, the teacher also encouraged them to watch explanatory videos on YouTube at home.



- Enhanced collaboration: Students effectively collaborated within their groups, leveraging ChatGPT to improve their collective learning experience on basic chemistry.
- Improved understanding: Through interactive engagement with ChatGPT, students gained clarity on complex concepts and reinforced their knowledge of basic chemistry.
- Enhanced exam preparedness: By actively revising with ChatGPT's assistance, students felt more confident and prepared to excel in their upcoming exam on basic chemistry.

CONCLUSION

In an era defined by rapid technological advancements, the integration of AI into educational settings has emerged as a pivotal consideration for educators worldwide. Recognising the significance of this paradigm shift, the AI-Teach project endeavours to equip educators with the requisite knowledge and tools to effectively leverage AI in their pedagogical practices.

The Handbook serves as a valuable guide for educators seeking to enhance student learning outcomes through innovative teaching practices addressing the challenges and opportunities associated with integrating AI-driven tools into primary education. Within its pages, educators will find essential insights, methodologies, practical activities, and successful examples for effectively incorporating AI tools responsibly into classroom instruction, ultimately empowering educators to adapt their teaching methods to the evolving educational landscape.

As educators embark on this transformative journey, it is crucial to equip them with the knowledge, tools, and confidence needed to navigate the complexities of the digital age and unlock new opportunities for student success. By embracing AI responsibly and integrating it into their teaching practices, educators can foster a learning environment that prepares students for the challenges and opportunities of the future.

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