

Lesson Plan:

Exploring AI Image Generators like Ideogram.ai



Level: Secondary Education (12-18 years old)

Subject: Information Technology, Media Literacy

Duration: 40 minutes

Learning Outcomes:

1. Students will understand how to use AI image generators like Ideogram to create images.
2. Students will develop critical thinking skills by analysing and verifying AI-generated images.
3. Students will enhance their ability to critique digital content, fostering a cautious approach to AI-generated visuals.
4. Students will learn to formulate effective prompts for AI image generation.
5. Students will understand the potential biases and limitations of AI-generated imagery.

Relevant Junior Cycle History Learning Outcomes:

6. 1.6: Debate the usefulness and limitations of different types of primary and secondary sources of historical evidence, such as written, visual, aural, oral and tactile evidence; and appreciate the contribution of archaeology and new technology to historical enquiry.

7. 1.7: Develop historical judgements based on evidence about personalities, issues and events in the past, showing awareness of historical significance.

8. 2.8: Describe the impact of war on the lives of Irish people, referring to either World War One or World War Two. (Relevant to the WWII London image analysis)

Key Skills (based on Junior Cycle Key Skills):

1. Managing information and thinking: Students will gather, evaluate, and verify information from AI-generated content and other sources.

2. Being creative: Students will explore how AI tools can be used creatively in image creation while maintaining a critical perspective.

3. Communicating: Students will express their ideas through image prompts and articulate their critiques of AI-generated images.

4. Being literate: Students will critically analyse visual content in the AI-generated images, particularly in historical contexts.

5. Working with others: Students will collaborate in discussions to analyze and critique AI-generated images.

6. Being numerate: Students will evaluate any numerical or proportional aspects of the AI-generated images for accuracy (e.g., aircraft models, historical skyline).

Materials Needed:

- Computer with internet access and projection capability.
- Access to Ideogram AI or another AI image generator.
- Textbooks, library, or online access to verified academic resources.
- Junior Cycle Key Skills Poster.
- Example images generated by Ideogram. (See Appendix)
- Images of real Londoners during World War II. (Google Images)

Lesson Structure:

1. Introduction (5 minutes)

- Show an introductory video about AI image generators (e.g., a tutorial on using Ideogram). <https://youtube.com/shorts/UL5McS6t-IY?si=IGQumjGwwbByUw9G>
- Discuss the potential of AI in creating images, its limitations, and why critical thinking is crucial.
- Emphasise the importance of being analytical and sceptical of AI-generated images, comparing AI to a creative tool that sometimes produces inaccurate or biased results.

2. Activity Setup (5 minutes)

- Introduction to Ideogram AI and its capabilities.
- Demonstrate how to use Ideogram AI to generate an image. For example, input a prompt like: "Generate an image of a futuristic cityscape at sunset."

- Explain that students will write a prompt each in advance, ensuring a broad range of topics and encouraging active participation.

3. AI Interaction (15 minutes)

- Students take turns inputting their pre-written prompts into Ideogram AI.
- Teacher monitors the session, ready to pause the interaction to highlight any dubious AI outputs for real-time analysis. Even if the AI generates a compelling image, you **MUST** pause the lesson at some points to demonstrate critical analysis.

4. Cross-Referencing Activity (10 minutes)

- Display the provided AI-generated image of a Londoner during World War II.
- Discuss the historical context and significance of the scene depicted in the image.
- Teacher and students use provided resources to verify the accuracy and appropriateness of the AI-generated image.
- Discuss the reliability of sources and methods for effective fact-checking.
- Highlight any biases or inaccuracies in the AI-generated images and discuss their implications.

5. Group Discussion and Reflection (5 minutes)

- Recap what was learned about using AI image generators and the importance of critical analysis.
- Reflect on the session's key takeaway: the necessity of fact-checking and critical thinking when dealing with AI-generated content.

Differentiated homework assignments:

Beginner:

AI Image Analysis:

- Find a real historical photograph from World War II.
- Create a simple two-column chart comparing this real photo to the AI-generated WWII image we discussed in class. List at least three differences.

Intermediate:

Media Literacy Report:

- Find a news article that uses AI-generated images.
- Write a report analysing how the article presents these images, whether it discloses they are AI-generated, and how this might impact the reader's understanding of the story.

Advanced:

Creative Historical Reconstruction:

- Choose a significant historical event that has limited visual documentation.
- Create a series of 3-5 prompts for an AI image generator to visualize different aspects of this event.
- Generate the images using a free AI tool.

- Prepare a presentation (5-7 slides) that includes the AI-generated images alongside real historical sources. For each AI image, critically analyse its accuracy and usefulness as a learning tool.
- Conclude with a reflection on the benefits and risks of using AI to visualise history.

Appendix

Notes for Teachers:

- Emphasise the importance of critical thinking and the need to verify information from multiple sources.
- Encourage students to reflect on their learning and how they can apply these skills in other contexts.
- This introduction might help:

Today, I want to talk about the rise of AI-generated images and the importance of critical and investigative skills. AI technology is advancing rapidly, and AI-generated images can now look incredibly realistic. This presents new challenges because not everything you see online is real.

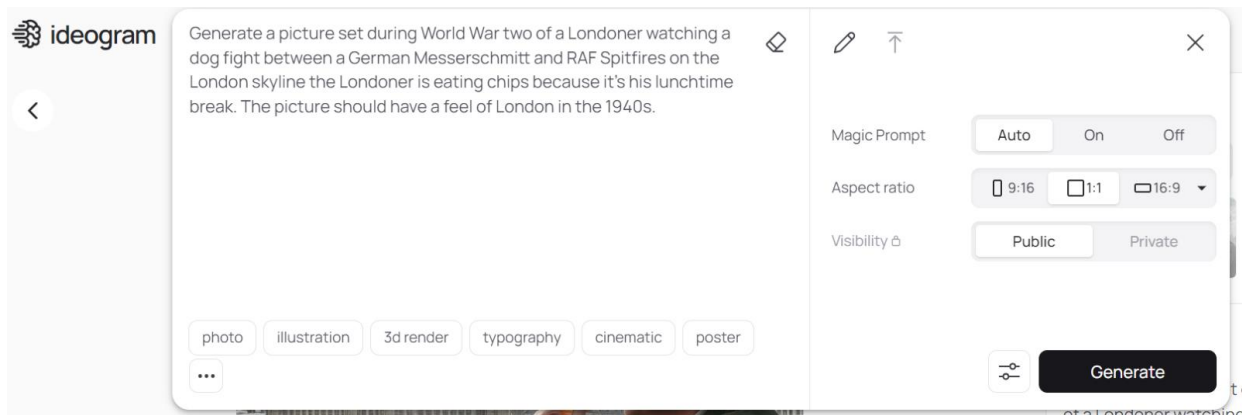
Critical thinking is essential. When you encounter an image or information, don't take it at face value. Ask yourself: where did this come from? Who created it, and why? Verify information from multiple sources to ensure its accuracy. This skill will help you in school and beyond.

Reflecting on your learning is crucial. Think about how you can apply critical thinking in different contexts. For instance, on social media, if something seems too good to be true, it probably is. Question the validity of the information and seek reputable sources to confirm it.

In your future careers, these skills will be invaluable. Employers value individuals who can think critically and solve problems effectively. Your ability to analyse and verify information will set you apart.

As AI-generated images become more common, developing strong critical and investigative skills is essential. These skills will help you succeed in school and prepare you for future challenges. Always question, verify, and reflect on the information you encounter. Let's try this out in today's lesson.

Prompt and image...



Critically analyse this picture...

Second image (if required)



Additional Resources:

- Excellent Article and video on Bias in AI Image Generators

<https://www.lis.ac.uk/stories/how-ai-image-generators-make-bias-worse>

List of Potential Inaccuracies in the AI-Generated Image:

1. Aircraft Models: The specific models of the aircraft involved in the dogfight may not be entirely accurate. The AI might depict generic World War II-era planes rather than specific models like the German Messerschmitt and RAF Spitfires.
2. The plane in the background looks like a UFO.
3. Historical Context: The specific location and details of the London skyline depicted in the image may not be entirely faithful to the actual historical landscape of the 1940s.
4. Artistic Interpretation: The image is a work of art or digital illustration, and may not accurately depict historical events or details. For example, the placement and arrangement of landmarks and the presence of fighter planes in that particular configuration may not reflect actual events.
5. Civilian Experience: The juxtaposition of a civilian calmly eating chips while a dramatic aerial battle unfolds above may not accurately represent the typical civilian experience during wartime.

Handout:

Disadvantages of AI-Generated Images

1. Misinformation and Disinformation:

AI-generated images can be used to create fake or misleading visuals that spread false information. These images can be highly convincing and might be used to deceive people or manipulate public opinion.

2. Ethical Concerns:

The creation and distribution of AI-generated images raise ethical questions about the authenticity of media and the potential for misuse. This includes the possibility of creating deepfakes, which can harm individuals' reputations or privacy.

3. Defects and Inaccuracies:

AI-generated images can sometimes contain visual defects or inaccuracies that make them unrealistic or misleading. These defects might not always be noticeable at first glance, but they can undermine the credibility of the images.

4. Intellectual Property Issues:

AI models often generate images based on existing data, which can lead to unintentional plagiarism or copyright infringement. This can cause legal issues and ethical dilemmas regarding the ownership of the created content.

5. Bias in AI Models:

AI models can reflect and perpetuate existing biases present in the data they were trained on. This can result in images that reinforce stereotypes or exclude certain groups of people.

6. Impact on Creative Industries:

The rise of AI-generated images can pose a threat to artists and designers, potentially leading to job displacement and a devaluation of human creativity and effort in visual arts.

7. Difficulty in Detection:

As AI technology improves, it becomes increasingly difficult to distinguish between real and AI-generated images. This can complicate efforts to verify the authenticity of visual content, making it harder to trust what we see online.

Conclusion

While AI-generated images offer exciting possibilities, they also come with significant drawbacks that must be considered. Understanding these disadvantages is crucial for responsibly using and interpreting AI-generated content.