

Europeana Learning Scenario

(Teachers)

Title

Rethink Art Creation with Artificial Intelligence

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Abstract

In this learning scenario, students will explore the world of digital cultural heritage through the lens of generative AI, using the works of renowned painter Claude Monet as a foundation. By understanding the techniques and principles behind Monet's art, students will be guided to utilize artificial intelligence tools to generate new interpretations of his masterpieces. This interdisciplinary approach allows students to engage with the concepts of digital cultural preservation while simultaneously fostering creativity, technological literacy, and an appreciation for art history.

Keywords

Generative AI, Art History, Claude Monet, Creativity, Interdisciplinary Learning

Table of summary

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Subject	Art History and ICT
Topic	This learning scenario will be used in an interdisciplinary approach focus on the topic of AI for ICT subject and in the study of the great master of painting in the subject of Art History
Age of students	14-16
Preparation time	100'
Teaching time	250'
Online teaching material	<p>Dream Studio: https://beta.dreamstudio.ai/generate</p> <p>Bing Chat Image Creator: https://www.bing.com/new</p> <p>Crayon: https://www.crayon.com/</p> <p>Exploring Monet Impressionism – Monet in Place - https://youtu.be/lfldAf7kLLE</p> <p>What is Generative AI - https://www.zdnet.com/article/what-is-generative-ai-and-why-is-it-so-popular-heres-everything-you-need-to-know/</p> <p>Generative Artificial Intelligence: https://en.wikipedia.org/wiki/Generative_artificial_intelligence</p> <p>Open Art AI - https://openart.ai/</p> <p>Creating images with Bing chat: https://blogs.microsoft.com/blog/2023/03/21/create-images-with-your-words-bing-image-creator-comes-to-the-new-bing/</p> <p>Creating images using DreamStudio- https://stable-diffusion-ai.art/how-to-use-dream-studio-web-app/</p> <p>Claude Monet shot bio: https://youtu.be/fd-Me3EBGY</p>



Offline teaching material

Europeana resources used

Europeana Monet paints gallery: <https://www.europeana.eu/pt/galleries/10999>
The Classroom museum: <https://www.europeana.eu/pt/item/392/sj13pm890>

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Integration into the curriculum

This learning scenario aims to integrate the subjects of Art History and Information and Communication Technology (ICT) to create an interdisciplinary learning experience for students. The combination of these subjects allows students to appreciate the beauty and history of art while also developing essential digital skills and understanding the role of technology in modern society.

Art History: Students will explore the life and works of Claude Monet, delving into his artistic techniques, principles, and the Impressionist movement. This will include studying Monet's famous paintings and their historical context, which will serve as the foundation for their generative AI projects.

ICT: The ICT component of this learning scenario focuses on introducing students to the concept of generative AI and how it can be applied to art. They will learn about various AI tools available for creating new interpretations of existing artworks, and how to use these tools effectively. Students will also learn about the Europeana Initiative and its role in promoting digital cultural heritage.

By combining these subjects, students will develop a deep understanding of both art history and technology, fostering creativity and critical thinking. This interdisciplinary approach will prepare students for an increasingly digital world while promoting an appreciation for cultural heritage.

Aim of the lesson

The primary aim of this lesson is to enable students to recreate Monet's art paintings using generative AI tools such as Dream Studio and Bing Image Creator. By achieving this goal, students will:

1. Develop an appreciation for Claude Monet's artistic style and the historical significance of his work within the Impressionist movement.
2. Gain a basic understanding of generative AI technology and its applications in the field of art.

3. Enhance their digital skills by using cutting-edge AI tools to create new interpretations of classic art pieces.
4. Foster creativity and critical thinking by experimenting with different generative AI techniques and parameters to produce unique and interesting artwork.
5. Understand the role of digital cultural heritage and the Europeana Initiative in preserving and promoting art history.

Through this lesson, students will be able to bridge the gap between traditional art appreciation and modern technology, fostering a well-rounded understanding of both fields.

Outcome of the lesson

Upon completion of this learning scenario, students will collaborate to create a digital art exhibition showcasing their AI-generated interpretations of Claude Monet's paintings. This tangible outcome will serve as a testament to their understanding of Monet's artistic style, mastery of generative AI tools, and appreciation for digital cultural heritage.

The digital art exhibition can be shared with the school community through various channels, such as:

1. An online gallery on the school's website or a dedicated platform, allowing students, teachers, parents, and the wider community to view and appreciate the AI-generated art.
2. A physical exhibition in the school's library or a dedicated space, where high-quality prints of the AI-generated artworks can be displayed alongside brief descriptions of the creative process and techniques used.
3. Social media posts on the school's official channels to highlight the project and share students' achievements, fostering engagement and pride within the community.
4. A digital or printed booklet showcasing the AI-generated art pieces, accompanied by brief explanations of the creative process and the students' reflections on their experiences.

These tangible products not only serve as an outcome of the learning scenario but also encourage a sense of community and appreciation for art and technology among the school community. By sharing their creations, students will inspire their peers and contribute to the promotion of digital cultural heritage.

Trends

Project Based Learning

Collaborative Learning

STEAM

Learning Artificial Intelligence

Cloud Base Learning

Visual Search Learning

Key competences

This learning scenario incorporates several key competences based on the "Key Competences for Lifelong Learning" framework established by the European Commission. These competences are essential for personal development, social inclusion, active citizenship, and employability in a knowledge society.


1. **Digital competence:** Students will develop their digital skills by using generative AI tools and understanding their applications in the field of art. They will become proficient in utilizing these tools to create new interpretations of Monet's work, fostering their digital literacy.
2. **Cultural awareness and expression:** By studying Monet's artistic style and the historical context of his work within the Impressionist movement, students will gain a deeper understanding of cultural heritage. They will also learn about the Europeana Initiative and its role in preserving and promoting digital cultural heritage.
3. **Multilingual competence:** While the learning scenario primarily focuses on communication in the mother tongue, it can be adapted to incorporate multilingual components by encouraging students to present their work or discuss the historical context of Monet's art in a foreign language. This approach will enhance their linguistic and intercultural skills.
4. **Personal, social, and learning to learn competence:** Students will engage in self-directed learning, collaboration, and reflection throughout the learning scenario. They will develop their abilities to set goals, manage their time, and work effectively with their peers, fostering essential life skills and personal growth.
5. **Entrepreneurship competence:** Through the creative process of generating AI art, students will develop skills such as creativity, initiative, and problem-solving, which are essential for entrepreneurship. They will also learn to adapt to new technologies and understand their potential applications in various fields.


Activities

Describe here in detail all the activities during the lesson and the time they require. Remember, that your learning scenario needs to use Europeana resources. If you are using any external documents, please scroll to the end of the document and add them to the Annex. Add more rows to the table if needed.

Name of activity	Procedure	Time
Discovering Art and Monet	Firstly, the teacher approaches the importance of art in and for Education. To do it he projects the video "Classroom Museum" the help students develop awareness about the importance of art as an transversal subject in education.	50'

Name of activity	Procedure	Time
	<p>From there, the next step will be an introduction to Claude Monet and the Impressionist movement, using this video Claude Monet: Father of French Impressionist Painting Mini Bio Biography https://youtu.be/pP1uXYT8n_M where the teacher should ask questions such as:</p> <ol style="list-style-type: none"> 1. What art movement is Claude Monet associated with, which is known for capturing the natural appearance of light in their work? 2. Monet's painting style often involved painting the same scene multiple times at different times of the day and year to capture changes in light and color. What is this series of works famously known as? 3. In his paintings, Monet often used loose brushwork instead of careful, detailed strokes. What was the purpose of this painting technique? 4. Can you name a famous series of paintings by Monet that showcased his style of capturing light and color changes, depicting a certain type of water plant in a pond? <p>Students take notes and participate in a group discussion about Monet's style, techniques, and the historical context of his work. Teacher introduces the Europeana gallery, about Monet, (https://www.europeana.eu/pt/galleries/10999) and guides students to explore the paintings that will be used as a basis for their AI-generated artworks. The notes taken by the students will be used to compare the original artwork of Claude Monet regarding the images created by the Artificial Intelligence models. This will allow students to develop a critical awareness about what machines nowadays are able to reproduce based on the usage of original artwork created by humans. The type of notes should be discussed and defined between the students and the teachers but could be focus on the matrix of colors, the light exposition, and the brushwork technique, but atmosphere and reflections are also very important in the context of Monet's work.</p>	
<p>Exploring Generative AI</p>	<p>Teacher presents the concept of generative AI (exploring the resources listed in the online resources section about Generative AI) and its applications in art using examples of AI-generated artworks. The website openart.ai contains information regarding AI art as well examples that will help students reflecting on this thematic.</p> <p>Students learn about the AI tools Bing Chat Image Creator, Crayon and Dream Studio, with demonstrations on how to use them effectively. To learn how to use these tools explore the resources listed on "online resources material" such as create images with Bing Image Creator and with Dream Studio.</p> <p>Teacher assigns each student or group of students one of Monet's paintings from the Europeana gallery to be recreate using generative AI.</p>	<p>50'</p>

Name of activity	Procedure	Time
<p>Generating Monet</p>	<p>Students work individually or in groups to use Bing Chat Image Creator, Crayon, or Dream Studio to generate AI interpretations of their assigned Monet painting.</p> <p>They experiment with different parameters and settings to create unique and interesting results, collaborating with their peers, and seeking feedback. Teacher should inform the students about the importance to use different prompts and compare the different results, they should be aware that slight changes in the prompts will generate different outputs and the mastery on how to prompt is key to achieve good output results.</p> <p>An example of a simple prompt is: <i>Reproduce a landscape of Brussels using Claude Monet's painting style</i></p> <p>This is an example of an output generated by Crayon using this prompt:</p>  <p>An example of a more detail a complex prompt is: <i>Create an image that captures the essence of a Monet painting. The scene should be a serene garden with a lily pond, reflecting the sky above. The style should emulate Monet's impressionistic brush strokes, with a focus on the interplay of light and color. The colors should be vibrant, with a palette dominated by greens, blues, and soft pinks. The composition should be balanced, with the pond acting as the central element. Use a high-resolution 16k setting for a detailed output.</i></p> <p>This is an example of an output generated by Crayon using this prompt:</p>	<p>100'</p>

Name of activity	Procedure	Time
		
<p>Presentation and Reflection - Sharing AI Creations</p>	<p>Students save their AI-generated art pieces for later presentation and reflection and to be used for the exhibitions for the school community.</p> <p>Students prepare a brief presentation about their AI-generated artwork, discussing their creative choices, the process, and any challenges they encountered.</p> <p>Each student or pair presents their work to the class, with time for questions and feedback from peers. Students engage in a group discussion about the ethical implications of AI in art, the preservation of original works, and the potential impact of technology on future artistic creation.</p> <p>As mentioned on the “outcome of the lesson” students should prepare online or onsite exhibitions to show their works to the community. It will be very interesting if the school could invite experts, along with the exhibition, on this thematic so they could organize an open discussion to all the community about these new challenges and opportunities raised by the movement of Generative AI.</p>	<p>50</p>

Assessment

To assess the work produced by the students throughout this learning scenario, a formative assessment approach will be employed. This method will allow for ongoing evaluation and feedback during the learning process, ensuring that students have the support they need to develop their skills and understanding effectively.

The topic to be assessed should focus on:

1. Class Participation: Assess students' engagement and contribution during group discussions and collaborative activities. This includes their ability to analyze and discuss Monet's art, share ideas and feedback, and participate in conversations about the ethical implications of AI in art.
2. Research and Analysis: Evaluate students' abilities to research and analyze Monet's paintings, including their understanding of his style, techniques, and the historical context of the Impressionist movement.

3. AI Tool Proficiency: Assess students' skills in using the generative AI tools, such as MidJourney and Stable Diffusion. This includes their ability to navigate the tools, experiment with different techniques and parameters, and produce unique interpretations of Monet's paintings.
4. Creativity and Problem Solving: Evaluate students' creativity and problem-solving skills in generating AI art. This includes their ability to overcome challenges, adapt to new technologies, and produce interesting and visually appealing interpretations of Monet's work.
5. Presentation and Reflection: Assess students' abilities to present their AI-generated artwork, articulate their creative choices, and reflect on their experiences during the learning scenario. This includes their communication skills, as well as their ability to analyze and evaluate their own work and the work of their peers.

***** AFTER IMPLEMENTATION *****

Student feedback

Collecting and giving feedback to students is crucial for fostering a supportive learning environment and ensuring continuous improvement. Some methods could be applied to collect and provide feedback throughout the learning scenario:

1. In-class Discussions: Encourage open dialogue and active participation during class discussions, allowing students to share their ideas, experiences, and challenges. Provide immediate feedback and guidance during these conversations to help them refine their understanding and develop their skills.
2. Peer Review: During the AI Art Generation activity, have students work in pairs or small groups to review each other's work. Encourage them to provide constructive feedback on the creative choices, techniques used, and the overall visual appeal of the AI-generated art. This will help students learn from their peers and improve their own work.
3. One-on-one Teacher Feedback: Schedule brief one-on-one sessions with each student or pair to discuss their progress, challenges, and successes. Provide personalized feedback and guidance, helping them address any issues and develop their skills further.
4. Reflection and Self-assessment: Encourage students to engage in regular self-reflection and self-assessment throughout the learning scenario. This can include journaling, self-assessment checklists, or guided reflection questions. Use their insights to tailor your feedback and support to meet their individual needs.
5. Digital Feedback Tools: Utilize digital tools like online surveys or forms to collect anonymous feedback from students about their experiences during the learning scenario, including the content, activities, and overall learning process. This information will help you identify areas that may require improvement or adjustment.
6. Post-presentation Feedback: After students present their AI-generated artwork, provide individualized feedback on their presentations, focusing on communication skills, content, and reflection. Encourage classmates to offer their feedback as well, fostering a supportive and collaborative environment.

Teacher's remarks

A self-assessment rubric for teachers implementing this learning scenario can help them reflect on their performance, identify areas for improvement, and set goals for future lessons. The following rubric focuses on key aspects of teaching and facilitating the learning scenario:

Criteria	Inadequate (1)	Developing (2)	Proficient (3)	Outstanding (4)
Content Knowledge	Limited understanding of Monet's art, Impressionism, and generative AI tools	Basic understanding of Monet's art, Impressionism, and generative AI tools	Solid understanding of Monet's art, Impressionism, and generative AI tools	In-depth understanding of Monet's art, Impressionism, and generative AI tools
Lesson Planning and Organization	Lesson activities lack clear structure or alignment with learning objectives	Lesson activities are somewhat structured and aligned with learning objectives	Lesson activities are well-structured and aligned with learning objectives	Lesson activities are exceptionally well-structured and aligned with learning objectives
Instructional Strategies	Limited use of engaging instructional strategies; students struggle to understand concepts	Some use of engaging instructional strategies; students partially understand concepts	Effective use of engaging instructional strategies; students understand concepts well	Highly effective use of engaging instructional strategies; students excel in understanding concepts
Classroom Management	Difficulty managing classroom dynamics and maintaining a focused learning environment	Moderate success in managing classroom dynamics and maintaining a focused learning environment	Effectively manages classroom dynamics and maintains a focused learning environment	Exceptionally manages classroom dynamics and maintains a

About the Europeana DS project

[Europeana](#) is Europe's digital platform for cultural heritage, providing free online access to over millions of digitised items drawn from Europe's museums, archives, libraries, and galleries. The Deployment of a common European data space (DS) for cultural heritage project builds on and expands the existing functionalities and services of the Europeana Digital Service Infrastructure (Europeana DSI). This initiative works towards the development and operation of the data space infrastructure, the integration and of high-quality data in the data space, the capacity building of professionals, the reuse of existing resources and the improvement of the digital services for the public. .

[European Schoolnet](#) (EUN) is the network of more than 30 European Ministries of Education, based in Brussels. As a not-for-profit organisation, EUN aims to bring innovation in teaching and learning to its key stakeholders: Ministries of Education, schools, teachers, researchers, and industry partners. European Schoolnet's task in the Europeana DS project is to facilitate the reuse of high-quality data and expand the community of users of Europeana for education.

