Pedagogika, 2025, 75(4), 459–467
http://pages.pedf.cuni.cz/pedagogika/

The Reconceptualisation of Portraiture by Generation Z Art Students Using AI and New Media

Didactic Implications for Art Education

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1. Introduction and Theoretical Background

Integrating digital aesthetics and tools, particularly artificial intelligence, is a crucial challenge for contemporary education. Generation Z students are digital natives (Francis & Hoefel, 2018) who routinely use these tools for communication and self-expression. In education, these differences have practical implications. AI offers immense creative potential but also risks promoting imitation and over-reliance on preset functions. The exploration of AI in art education is framed by a broader theoretical debate on the nature of intelligence and creativity. While AI excels in pattern recognition and data processing, human intelligence is characterised by social intelligence, emotional depth, and the capacity for error and unpredictability (Sternberg, 1989; Kihlstrom & Cantor, 2000). Bennett (2024) highlights unique human features that AI has not yet replicated: the capacity to learn from minimal examples, to imagine and ideate beyond existing information, and to process multisensory experiences.

This study, conducted at the University of Hradec Králové, addresses this reality by exploring how art students engage creatively and critically with AI in the context of portraiture – a genre that is central to artistic tradition yet is constantly being redefined in the digital sphere. Portraiture and self-portraiture, as reflections of personal identity, are the most appropriate topics for visual experimentation with digital tools and AI.

The "Human Boundaries" project was philosophically grounded in **posthumanist and transhumanist concepts** (Hayles, 1999; Braidotti, 2013) which challenge fixed distinctions between the organic and artificial. The study specifically engages with the notion of **humanity in the age of AI** (Hamilton & Aaker, 2024), where the creative process becomes a space in which to perform a critical examination of what remains uniquely

DOI: 10.14712/23362189.2025.4939

human when machines can generate art. The core research method was **art-based research** (Barone & Eisner, 2011; Leavy, 2015), chosen for its ability to observe and incorporate changes in criteria and aspects directly within the creative process. The research was conducted in two phases: a preliminary questionnaire survey and guided interviews, followed by an art-based research phase.

2. Research Objectives and Problem

The research project was driven by the assumption that the current young generation perceives the boundaries between man, machine, and nature differently than previous generations, and intuitively utilises new tools for creative activity.

The research involved a group of **22 art students** enrolled in the Department of Art at the University of Hradec Králové (2024/2025 academic year). All the students were members of Generation Z and had attended prior theoretical and practical courses on digital literacy and new media. This ensured a high level of digital competence, allowing the project to focus on the creative and critical application of AI rather than basic technical instruction. The artistic outputs from the art-based research phase served as the primary data for the analysis of creative and reflective approaches.

The four main objectives were:

1. to map the creative, reflective, and critical approaches of Gen Z to the changing perception of **human identity boundaries**;
2. to explore the use of AI as both a **technical tool** and a **co-creator** in the artistic process, examining the ambiguous relationship between human creativity and AI;
3. to explore how the redefinition of the portrait genre and the creative process promotes the development of **soft skills** (creativity, critical thinking, communication, empathy, problem-solving);
4. to pursue the possibilities of transforming the critical-creative approaches into **innovative educational practices** applicable across disciplines.

3. Key Findings on Human-Machine Perception

The initial survey and interviews revealed a consistent set of perceptions among the students regarding the distinction between humans and machines, which directly informed their artistic practice:

- **Fluid Boundaries:** The students largely perceived the boundaries between humans, nature, and machines as fluid and intertwined, aligning with posthumanist thought.
- **Value of Imperfection:** A key finding was the appreciation of **human error, imperfection, and mistakes**. These were recognised as uniquely human traits that fuel creativity, reflecting an understanding of creativity rooted in variability and unpredictability.
- **Distinguishing Human Traits: Empathy, human virtues, and self-reflection** emerged as the most valued char-

acteristics distinguishing humans from machines. Interestingly, self-expression, a traditional artistic theme, was less central to their reflections on humanity.
- **AI as a Natural Part of Life:** Technology was seen as an integral part of their world, with the boundary felt between human and machine being less pronounced than the boundary between humans and nature. This acceptance of technology as a given facilitated its seamless integration into their creative work.

4. Case Studies: AI in Creative Practice and Didactic Potential

The creative phase demonstrated three distinct roles for AI, each offering significant didactic potential for art education.

4.1 AI as a Technical Tool for Conceptual Exploration (A.Š., 24)

The student A.Š. used AI for digital manipulation of photographs of cellular tissue, developing the aesthetic potential of the living form into an abstract object, exploring the permeable boundary between the organic and inorganic (Fig. 1). The human boundary was perceived on the microscopic level, so this line became somewhat illusory. This approach showed how AI tools can transform biological form into visuality that appears machine-generated.

Didactic Potential:
- **Developing Articulation and Planning:** The use of AI helps the student to overcome technical difficulties while developing their ability to articulate the brief and define the scope and content of sub-steps leading to the solution. This process makes the student aware of the multifaceted relationship between **rational planning and artistic intuition.**
- **Associative Method:** Concentration on detail allows students to free themselves from pre-given aesthetic assumptions, creatively developing visual structures into new forms. An associative method teaches pupils to perceive changes in context and perspectives and to work naturally with abstract aesthetics.

4.2 AI as a Co-Creator and Interdisciplinary Bridge (E.V., 23)

The interactive installation of student E.V., *Between the Pulse and the Algorithm* (Fig. 2), involved an algorithm generated by AI according to the author's general assignment, making AI a co-creator. The installation used a sensor to translate the audience's heart rate into a visual, geometric "non-human" abstract shape.

Didactic Potential:
- **Authorship and Craftsmanship:** Acknowledging AI's co-authorship opens up possibilities for discussion about the limits and forms of **authorship** and the connection of craftsmanship (or lack thereof) with the concept of the artwork.

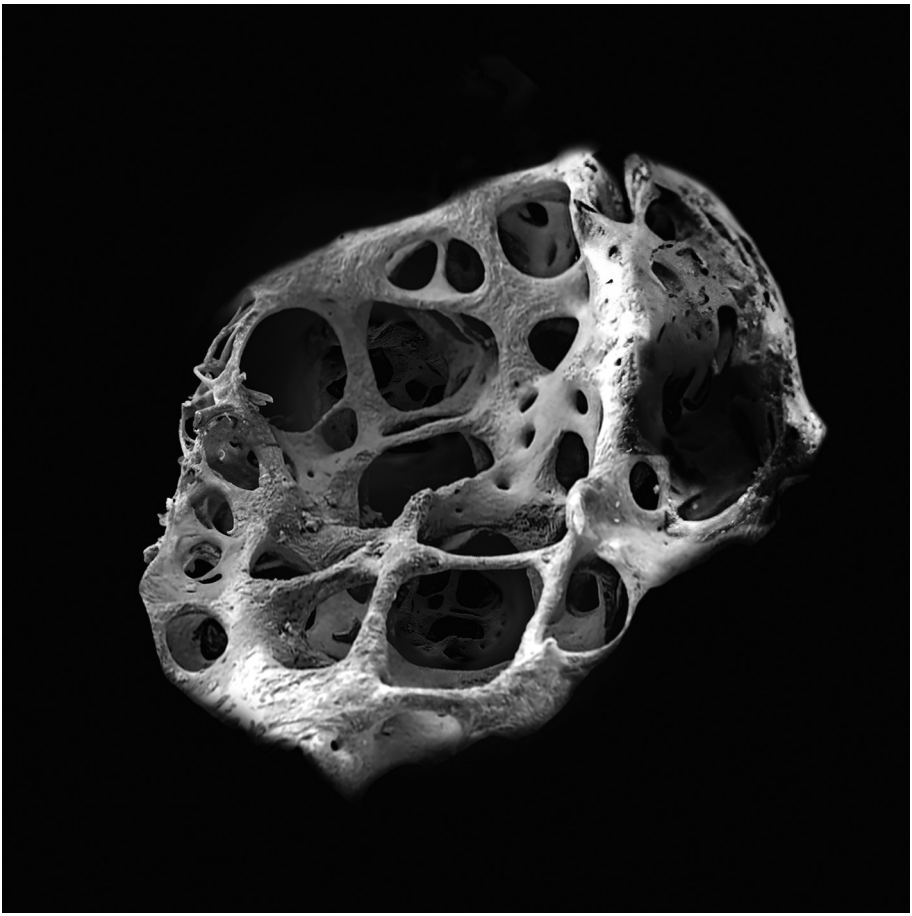

Figure 1 Organic object no. 1. 2025. Photo author: A.Š.

- **Interdisciplinary Overlap:** The method, combining biology (heart rate), programming (AI-generated algorithm), and visual art, offers a strong model for **interdisciplinary cooperation** and the radical redefinition of the self-portrait concept through symbolic representation of immediate experience.
- **Constructivist Learning:** This practice fulfils the concept of experimental activity based on constructivist theories, where pupils arrive independently at knowledge and deeper insight through experimental exploration.

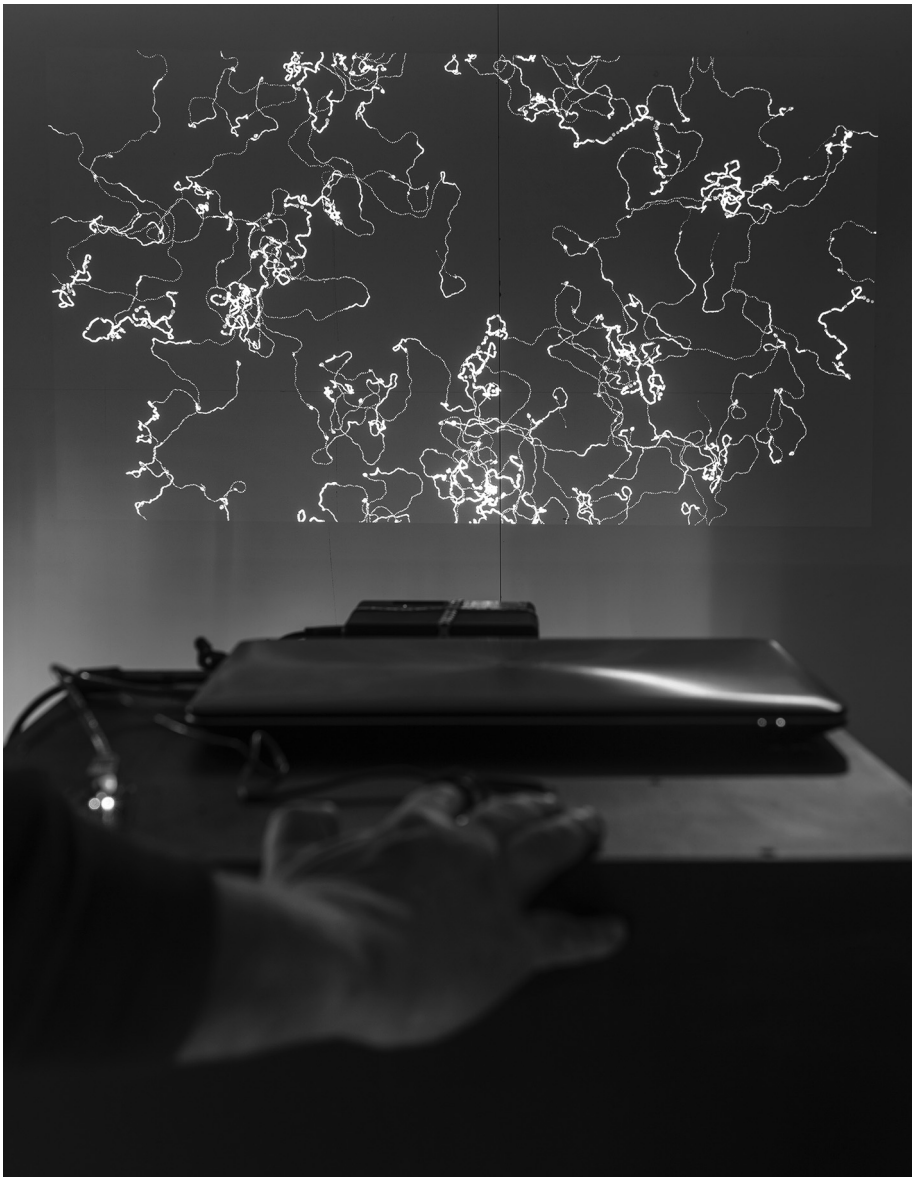

Figure 2 Between the Pulse and the Algorithm. 2025. Photo author: Marcel Rozhoň

4.3 AI as a Conversational and Research Tool (S.E., 24)

S.E.'s object, *The Immortal Cycle* (Fig. 3), was a visualisation of communication with AI on the topic of hybridisation. The student used AI as a research tool, engaging in a series of clarifying questions (e.g. "What is typical of humans? What animal is most unlike a human?"). The resulting work was an amalgam of the author's imagination and the database of textual and visual material available to the AI.

Didactic Potential:

- **Linking Textual and Visual Components:** The interview form links the textual and visual components seamlessly, offering ample inspirational stimuli for visual representation.
- **Critical Engagement with Data:** Communicating with AI in this manner teaches students to engage critically with the "mixture of voices representing shared ideas", moving beyond purely subjective or entirely objective creation.
- **Playful Experimentation:** The experimental, playful form relieves the student-creator of the shyness of creation and offers the opportunity to work in a familiar medium while simultaneously teaching them to plan, think, and grade the creative process.

Figure 3 The Immortal Cycle. 2025. Photo author: Marcel Rozhoň

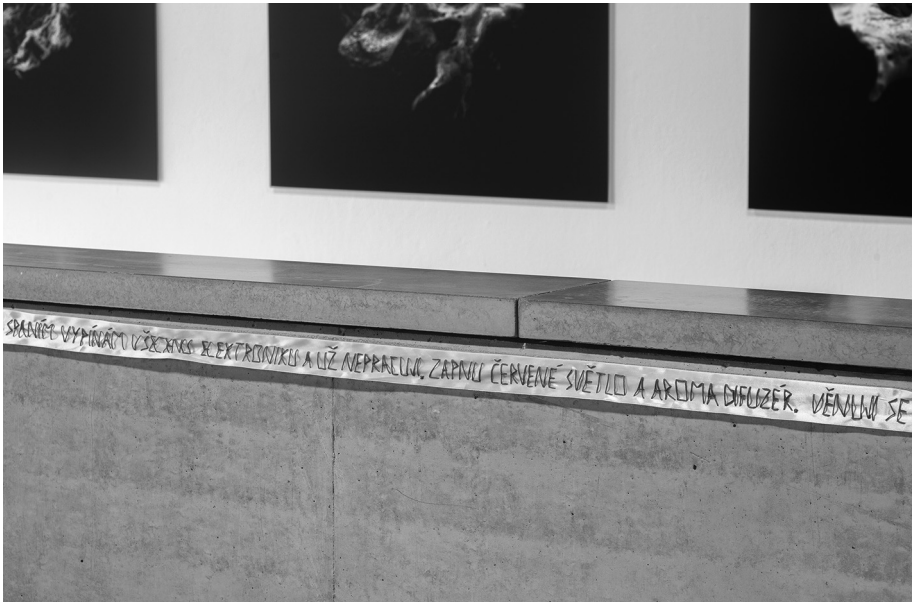

Figure 4 Advice for Life. 2025. Photo author: Marcel Rozhoň

4.4 AI as a Communicator of Shared Wisdom (K.K., 25)

In the project *Advice for Life* (Fig. 4), AI served as a communicator. The author repeatedly asked the AI a single question: "What life advice would you give me?" The collected answers were converted into a visual form by stitching them onto a strip of fabric, inspired by traditional home embroidery. This choice deliberately contrasts the digital source (AI-generated advice) with a nearly forgotten visual craft tradition, accentuating the role of shared wisdom and female togetherness.

Didactic Potential:

- **Linking Digital and Analogue Media:** This procedure links digital and analogue media powerfully, creating a dialogue between tradition and modernity.
- **Interdisciplinary Overlap:** The work allows for significant interdisciplinary connections among history, folklore, ethics, psychology, and sociology through discussion and creative activities.

5. Conclusion and Didactic Implications

The "Human Boundaries" project confirms that Generation Z art students are not only adept at using AI but are also engaging critically with its implications for human identity and creativity. Their work demonstrates a sophisticated understanding of the human-machine relationship, where the value of humanity is found in its imperfections and emotional depth, rather than in technical superiority.

The didactic implications for art education, and by extension, for education across disciplines, are profound:

1. **Shift from Technical Skill to Conceptual Articulation:** AI tools necessitate a pedagogical shift from focusing on technical execution to emphasising **conceptual articulation, planning, and critical brief definition**. Students must learn to "speak" to the machine effectively to achieve their artistic goals.
2. **Cultivation of Soft Skills:** The collaborative and experimental nature of AI-integrated art practice directly promotes the development of **critical thinking, problem-solving, and interdisciplinary communication** – skills essential for the 21st-century workforce.
3. **Redefinition of Authorship:** AI forces a necessary discussion on **authorship, co-creation, and the role of the artist** in an age of algorithmic generation, preparing students for the ethical and conceptual challenges of the future.
4. **Constructivist and Experimental Learning:** The project validates the use of constructivist, experimental activities in art education, where students explore complex socio-cultural issues independently through the medium of AI.

Projects such as this seek to integrate essential social issues and their critical evaluation into formal art education, which, through its interdisciplinary nature, can create an environment for broader and deeper insight for students, offering innovative models for AI integration across the entire educational spectrum.

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FILIPOVÁ, P., ŠTĚPÁNKOVÁ, K. Rekonceptualizace portrétu studenty generace Z

Text zkoumá, jak studenti výtvarného oboru generace Z přehodnocují tradiční žánr portrétu a s využitím umělé inteligence (AI) a nových médií zkoumají fluidní hranice mezi přírodou, člověkem a strojem. Prostřednictvím výzkumu založeného na umění výtvarně-výzkumný projekt „Hranice člověka" ukázal, že studenti vnímají lidskou chybovost, nedokonalost a omylnost jako jedinečné vlastnosti, které člověka odlišují od strojů a jež jsou zdrojem jeho tvořivosti. Studie ukazuje na posun ve vnímání technologií: od technického prostředku ke spoluautorství a partnerskému dialogu, jenž podporuje kritické myšlení, schopnost plánování a mezioborové dovednosti tvůrců. Zjištění nabízejí didaktickou inspiraci pro integraci AI do výtvarného vzdělávání, jež podporuje rozvoj klíčových měkkých dovedností významných napříč všemi vzdělávacími obory a disciplínami.

Klíčová slova: *výtvarné vzdělávání, AI, umělá inteligence, portrét, tvořivost, didaktika, generace Z, posthumanismus*