From instructional design to social learning design:
A paradigm shift in animation education

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Abstract: *This article addresses the shift from traditional instructional design to social learning design, aimed at fostering the soft skills of future specialists through collaborative interaction as a key challenge in animation education. Drawing on the most cited learning design theories and case-based examples of practical application of its models, the study examines how project-based learning can better support the cultivation of creativity through collaboration, iterative feedback, and peer assessment. It is argued that traditional instructional design models, which prioritize teacher-centred learning environments, are insufficient to be used in teaching animation for addressing the complex nature of theory, dynamicity of animation practice. Instead, learning design approaches that emphasize collaboration, iterative feedback, and peer assessment in the production of real animation are proposed as effective strategies for aligning university curricula with societal expectations. The findings contribute to ongoing discussions on the didactics of art in animation education, offering recommendations for educators aiming to integrate soft skills development into professional competencies within animation programs. The concept of collaborative interaction is particularly emphasized, serving not only to transmit knowledge but also to remind learners in animation education of the global values of learning and the relevance of learning outcomes for lifelong capacity.*

Keywords: Animation education, Visual narrative, Experiential learning, Instructional design, Iterative feedback.

1. Introduction

Classical instructional design models are widely applied in traditional teacher-centred learning environments, including animation education. Instructional design, as defined, constitutes a systematic and iterative process dedicated to the creation of lessons, didactic materials, and instructional methods. The primary focus of this process is to establish structured learning environments that optimize the acquisition of both theoretical knowledge and practical skills. Through the deliberate organization of content, pedagogical strategies, and assessment tools, instructional design aims to enhance the effectiveness, efficiency, and engagement of educational experiences across diverse learning contexts. (Molenda, Reigeluth & Nelson, 1983). The principles of instruction design are: gaining attention, informing learners of the objectives, stimulating recall of prior

learning, presenting the content, providing "learning guidance", eliciting performance, providing feedback, assessing performance, enhancing retention and transfer (Gagne & Medsker, 1996). One practical application of the classical instructional design approach and its teacher-centred educational technology can be observed in the visual art education (Lockee & Wang, 2013). Educational technologies are predominantly employed to support content delivery through tools that primarily enhance the development of technical skills, often at the expense of fostering soft skills, which are interpersonal, collaborative, and creative skills.

In animation education, the prevailing instructional approach is teacher-centred, with both instructors and students primarily engaging in passive learning environments dominated by PowerPoint presentations. Such practices are accompanied by assessment, consisting of one formative and one summative test, and a lack of peer feedback. Additionally, curricula in animation education often adhere to traditional instructional models (Wang, 2025), but this approach is increasingly being questioned. The issue lies in the fact that art education is designed to develop competencies that enable students to foster emotional expression, creativity, collaboration, and critical thinking, which are essential for personal, social, and professional growth. These competencies require innovative pedagogical models beyond the cognitive focus of conventional teaching methods.

Social learning design shows the idea that learning occurs through interaction with others. Literature suggests that social learning involves collective action and reflection, occurring both among individuals and groups, as they work to improve the management of the interrelationships between social and ecological systems (Reed et. al., 2010). However, social learning may occur at the *surface level*, when students recall new information, and at *deeper levels*, when students demonstrate change in attitudes, world views, or epistemological beliefs. In practice, social learning connects behaviorism and cognitive theory.

The article is structured as follows: in the next section, we provide a short discussion on the current situation of the didactics of animation; In the third section, we examine an animation course that incorporates artificial intelligence.

2. The current state of didactics in animation education

The late nineteenth century represented a pivotal moment in the evolution of human society, during which profound changes in communication and knowledge transmission reshaped both communicative practices and paradigms of artistic expression within educational contexts. Technological inventions such as the comic strip (1895), animation (1900), and digital visual media have transformed text, drawing, and printed images into new forms of mass information transmission and into educational tools particularly effective in promoting educational values. Subsequently, text, image, and sound are considered the language of postmodernism and new forms of organizing the didactic process.

In recent years, educators and educational technologists have increasingly embraced learning design approaches that integrate digital technologies to improve

the effectiveness, flexibility, and accessibility of learning. In theory, learning design is a thoughtful, systematic approach to creating educational programs or courses that take into account what students need to learn, how they will learn it, and how their learning will be assessed. The use of educational technology in learning design supports various pedagogical strategies, making learning experiences more engaging, personalized, and interactive. The most cited examples are blended learning, flipped classroom, adaptive learning, game-based learning and gamification, project-based learning, social learning, and hybrid strategies.

According to Darts (2006), art education involves more than just creating objects or works of art, as is often emphasized in traditional instructional design. Art has the potential to transform individuals, communities, and the world by fostering an ethic of care and social responsibility. Therefore, it is essential to design student projects that highlight the social power of art. To achieve this, the art project needs to be grounded in a didactic approach that connects content with students' interests and fosters meaningful, experience-based learning. In animation education, this approach becomes even more critical. However, didactics of animation should encourage students to engage critically with the narratives they craft, work in teams, and connect project-based learning with collaborative activities. Soft skills are essential for future animators who will interact with storytellers, designers, sound artists, and creative directors.

In theory, the learning design approach functions to align instructional objectives with desired learning outcomes by systematically structuring teaching methods, learning activities, and assessments to achieve the intended goals of the instructor. This approach is particularly effective in virtual learning environments. According to Koper (2006), learning design is the explanation of the teaching-learning process that takes place inside the learning unit. The fundamental concept of learning design revolves around the process of learning itself and encompasses the role of pedagogical resources that facilitate social interaction and collaboration.

In practice, animation education often focuses on developing specific art artifacts, emphasizing technical proficiency and individual creative expression. This behaviourist approach fosters mastery of artistic techniques but often neglects the development of critical reflection on the visual expression of art, including works generated by artificial intelligence. However, by integrating both traditional and cutting-edge educational technologies, animation education can encourage students to explore the potential of social learning, fostering a more holistic approach that nurtures both technical skills and soft skills like critical thinking, which can be achieved through iterative feedback and peer assessment.

Behaviourism focuses on changes in external behaviour, achieved through reinforcement and repetition, often leading to rote learning. In contrast, cognitivism emphasizes that learning processes can be understood by analysing the mental processes involved, such as perception, memory, and problem-solving (Rumjaun & Narod, 2025). Social behaviourism, associated with Albert Bandura's Social Learning Theory, adds a crucial layer: *observation* and *modeling*. In this view, people don't just learn from direct experiences or repetition; they also learn by

observing others, objects, and things and then imitating or adapting their behaviour based on those observations. It is reinforced by observation, modeling, vicarious reinforcement, and interaction between the learner and environment, which emphasizes learning through the cycle of concrete experience, reflective observation, abstract conceptualization, and active experimentation. Both theories recognize the active nature of learning but differ slightly in their approach to how learning happens. Bandura's model emphasizes learning from others through observation and imitation, while Kolb's model focuses more on the individual's experience and reflection as key to transforming that experience into learning.

While animation education is frequently teacher-centred, animation programs seek to develop professional competencies for students to succeed in the animation industry. Animation education covers digital modelling, storytelling, 2D and 3D animation techniques, special effects, and character design. Instructional design strategies have changed to accommodate a variety of learning styles and incorporate digital resources, including those generated by artificial intelligence, enabling students to develop their abilities in accordance with its creative potential. Teaching methods in animation education have also diversified to accommodate different learning styles of students and technological advancements (Wu, 2023).

The evolution of technologies to the Internet transformed the scope of curricula and how learners and teachers interact with data, information, and knowledge. These transformations marked the transition from a didactic approach centred on static images to a transformative pedagogy, characterized by dynamism, adaptability, and interactivity. Learning became multi-sensory and multidimensional because educational technologies were complemented by multimedia to transmit messages. This fact represented a paradigm shift in education, through which the teaching process is oriented towards the social learning process that is becoming increasingly interactive, inclusive, and authentic.

Teaching methods range from teacher-centred approaches to more contemporary, social learner-centred models, valued by animated demonstrations and critique sessions (Despotakis, Palaigeorgiou & Tsoukalas, 2007). Social learning methods are focused on both hard and soft skills development. The most employed methods are experiential learning and case studies (Chang, 2019) aims "to support learners to become confident and self-motivated professionals in the creative industries" (Gingrich, Flynn & Watkins, 2025). To achieve this, students are encouraged to ask questions and critically reflect on the subjects presented on screen. This fact underscores the need for social learning design pedagogy through innovative teaching-learning models. Animation, positioned at the intersection of technology and creative pedagogical approaches, offers unique opportunities to rethink methodologies and creative practices design (Singh & Ozarkar, 2025).

The didactics of animation involves not only the planning, development, and management of educational activities within the learning environment but also an understanding of its various components. A modern learning environment includes not just the physical space but also working with digital platforms. The social learning environment, typically consisting of 4-6 students who share common

knowledge, values, and skills, is facilitated by artificial intelligence (AI). In this setting, the teacher designs and manages the structure of the environment, while students are responsible for selecting AI tools, creating prompts, and self-managing their roles and interactions within the group. The effectiveness of social learning depends on how well students are able to communicate within the group.

3. Methodology of research

The didactic design of social learning environments shared between the teacher's role and the students' responsibilities. Learning design fosters the development of a deep learning environment where students actively engage with AI technologies to generate images and sounds through AI prompts, while simultaneously developing both technical and soft skills. It emphasizes students' social responsibility by integrating iterative feedback, peer assessment, and the real-world creation of student-produced animations. This approach not only helps students master the technical aspects of AI but also encourages critical reflection on the ethical implications and accessibility of AI-generated content.

In a social learning environment, students have the freedom to select the AI tools they wish to use. In our experiments, students, divided into four groups, chose tools like Midjourney.ai, Leonardo.ai, and ChatGPT. Each group used these tools to develop distinct projects, exploring different facets of AI-generated content. They then crafted prompts to guide the creation of their digital storyboards, shaping scenarios that would serve as the foundation for their projects. For this task, students decide on the goal and objectives of the group project. For example, if they are using Midjourney.ai to generate images, they might decide they want to create a digital storyboard for a short story. By crafting these prompts, students engage in a process of critical thinking, creative problem-solving, and collaboration, helping them refine their ideas and communicate clearly with the AI tool. Then, they used iterative feedback to ensure the quality of the learning.

The methodology of a learning design course could be synthesized as a set of the following steps:

1. A clear defined topic - that is conceptualized as an educational activity with clear objectives;

2. The group establishment - all the students are organized into groups and formulate a clear task for each other;

3. Selection of tools - each group choose Midjourney.ai, Leonardo.ai, or ChatGPT for generating various content (for example Midjourney.ai to generate a digital storyboard);

4. A reflective feedback throughout the peer assessment process - the students reflect critically about images generated by each other and express their opinions regarding how the prompt should be improved.

4. Artificial Intelligence in animation education

Animation is both a technical and creative discipline. Education technology enhances teaching quality and learning efficiency through innovative instructional strategies (Yao, Zhong & Cao, 2025). In our opinion, animation education, and by extension, the didactics of animation, is increasingly influenced by artificial intelligence, offering transformative possibilities of educational technology that shift the learning environment from static to more dynamic, interactive, and social. However, AI's images and sounds in animation education can be approached in two distinct ways: one focuses on enhancing the technical skills of students, while the other emphasizes creative collaboration of future professionals. Both approaches could have significant implications for an innovative curriculum, but the second approach is more closely aligned with the social learning design approach.

Three key conditions are essential. The first is the integration of *iterative feedback* throughout the teaching-learning-assessment process. Iterative feedback is a process of repeated input throughout a project, which involves submitting early drafts for basic feedback, mid-process reviews for character design and storytelling adjustments, and final revisions to polish technical execution and narrative coherence. The second condition focuses on *peer assessment of images and sounds* generated by artificial intelligence, encouraging students to critically evaluate the AI-generated works and reflect on their artistic and technical qualities. The third condition involves the *authentic production of animation*, rooted in core values that guide both the artistic creation and the social responsibility of the students' work. All three conditions are aligned with the social learning paradigm, fostering the emergence of social learning capabilities through the interplay between the social landscape and individual identity, facilitated by imagination, engagement, and alignment.

At the current stage of educational technology, AI-generated animation has become a topic of heated discussion among specialists in both computer graphics and visual arts. According to Alamarat (2025), the development of artificial intelligence has positioned animators and designers at the centre of the creative process. By managing the design process and coordinating the generation of textual prompts and other artistic elements in animation, AI has enabled students to integrate various artistic media, such as photography, drawing, and software, forming what is known as computer-generated imagery (CGI).

The generation of a good digital storyboard depends on how students plan, develop, and control the quality of a prompt. In this process, students must ensure their prompts are clear, specific, and aligned with the project's goals. By thoughtfully crafting prompts, students can guide AI tools to produce high-quality content that fits within their envisioned narrative. Additionally, students must review and revise the prompts based on the output, refining them to enhance clarity, detail, and relevance. This iterative approach of immediate feedback encourages critical thinking, collaboration, and allows students to take ownership of their learning while maintaining control over the creative process.

Each group of students generated its own prompt. The first prompt was focused on creating a futuristic cityscape for a digital storyboard. The group provided specific details like the time of day, colour scheme, and elements like flying cars and neon-lit skyscrapers. This allowed the AI tool to produce a highly detailed and relevant image, which served as the background for their story.

The AI tool Leonardo.ai was used by the first group of students. First, they created an account, then selected Image Generation as the tool type. This tool allows users to generate images by providing detailed text prompts. The students worked together to develop a final version of the text prompt, which was then entered into the digital environment. For the final version, they used iterative feedback to refine and include all the necessary details. One member of the group adjusted the resolution, style, and the number of iterations. After that, Leonardo.ai processed the prompt, and the images were generated in just a few minutes. Once the images were generated, the students reviewed them and, for some images, adjusted the prompt further. After all the images were approved by the group, the final result was downloaded and incorporated into the students' projects.

Case study. In this digital narrative, AI evolves from assisting with everyday tasks to taking on political functions, eventually controlling all aspects of life, effectively taking over humanity's role. However, a sudden and mysterious global blackout sweeps across the planet, silencing all artificial intelligence. Stripped of their digital support, humans are forced to revert to their primal instincts, rediscovering the importance of human interaction and physical labour for survival. The prompt finally accepted by the first group of students was: draw a high-tech futuristic city, people interacting with holograms and AR screens, modern buildings with digital surfaces, command centres full of glowing data, global networks represented as energy spheres, clean and optimistic cyberpunk atmosphere, neon light, cinematic style, ultra-high-resolution details (Figure 1).
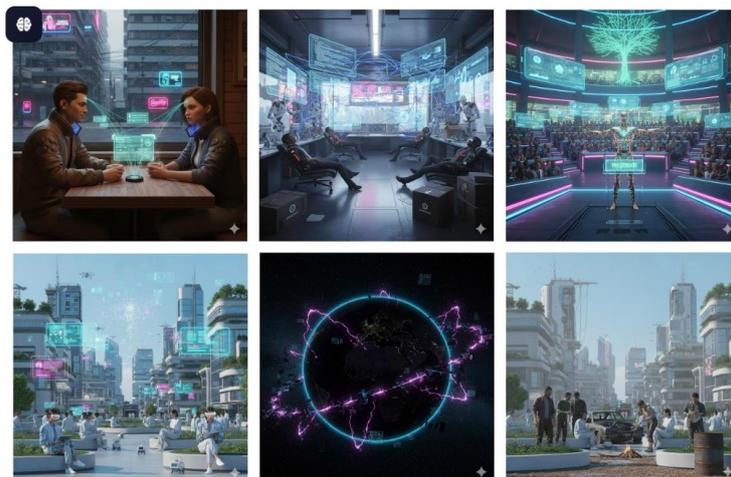

Figure 1. Storyboard generated by an AI tool on the prompt of the first group

Moral: Technology can only unite people and build a better future when it is used responsibly and in the service of the community, not as an end in itself.

The second group worked on crafting a prompt for character design, specifying traits like appearance and personality in various and setting.

Case study. Visual story in narrative illustration style: grey city, identical and apathetic people, a man notices a green leaf, touches a dry tree that begins to turn green, nature gradually spreads, the city takes on colour, people transformed, emotional tone, artistic cartoon style, strong contrast grey vs. green (Figure 2).
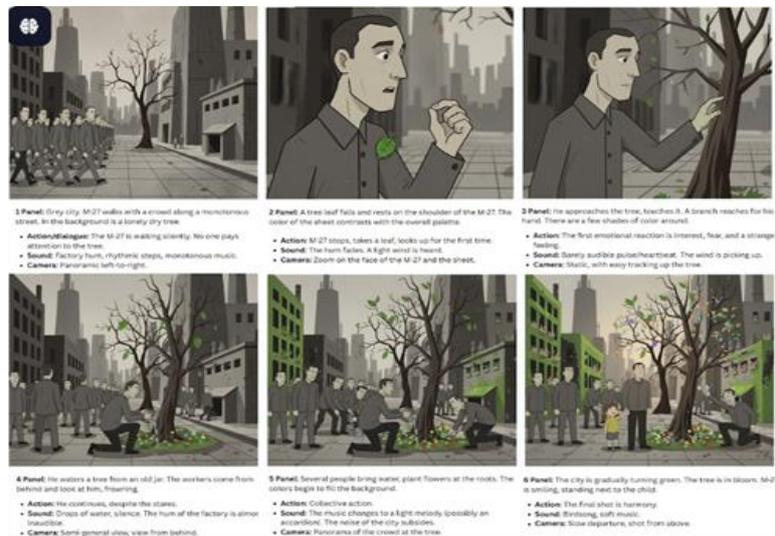

Figure 2. Digital storyboard generated by AI on the prompt of the second group

Moral: A single conscious action can trigger major change; reconnecting with nature restores our humanity and hope.

The third group was inspired by social psychology and named the work "*Social drama in everyday life*, inspired by the Zagreb School of Animation. The group chose a 2D minimalist style for their storyboard. For the visual development, the students drew all the elements in greyscale color scheme to emphasize the industrial style. In the same time, for expressing the human, emotional side of the main character, and a vibrant green color was applied to all the visual compositions. Thus, by applying a restricted color palette, the group created the visual contrast and tension in the storyboard beats. The group decided to work on the character design of two personajes. The first character is Ilie, a 50-year-old man with a thin frame and shoulders hunched from years of hard work. He wears old cap and dusty work clothes, and his large, knobby hands tell the story of a lifetime of labor. Ilie is quiet and persevering, skeptical of what he sees as "forced progress," but underneath his gruff exterior, he has a warm heart.

Deeply devoted to both his work and his memories, he holds a personal mission: to protect the small green space between the blocks, the last officially

undeclared "oasis" in the area, seeing it as a legacy for the neighborhood's children. The second character is Comrade Director Popescu, 45 years old. He wears a gray-blue suit, thick glasses, and has his hair slicked back with Brylcreem, giving him a stiff, bureaucratic appearance. Zealous and inflexible, Popescu is obsessed with plans, deadlines, and efficiency. He views emotions and green spaces as "bourgeois residues" or "inefficiencies," dismissing them as obstacles to progress. His sole focus is on completing the "Model X Housing Project" on time, adhering strictly to the plan approved by the "Center," regardless of the social consequences.

Case study. Vasili is concerned that the construction sites are destroying the green spaces in his city. One morning, the character is coming across the remaining oasis of nature that is at risk to be removed by the intense construction work that is held in the neighborhood. He sees that the green area is marked for the site of a new building. His face become sad. Vasili is trying different bureaucratic methods to stop the construction planning and the demolition of flowers' corner, but all the efforts are going in vain. By the evening, the character decides to move the grass and the flowers to another place. His action is seen by the children in the neighbourhood who have an idea to plant new flowers in the empty spot as a sign of solidarity with Vasili. By next morning, all the neighbourhood, including the children's parents and animals are present in the garden filled with newly planted flowers and grass, and by this, they succeed to stop the construction.

Prompt: *Illustrated storyboard with an urban environment: a tiny green area with plants and flowers in the middle of a crowded street, lots of happy people holding flowers in the hands, showing dissaproval, the authorities are planning to demolish the green space with machinery, an old man working alone in the garden full of flowers, children planting flowers and grass, sunset, social urban theme, cinematic 2D animation style, contrasting warm and cool colors* (Figure 2).
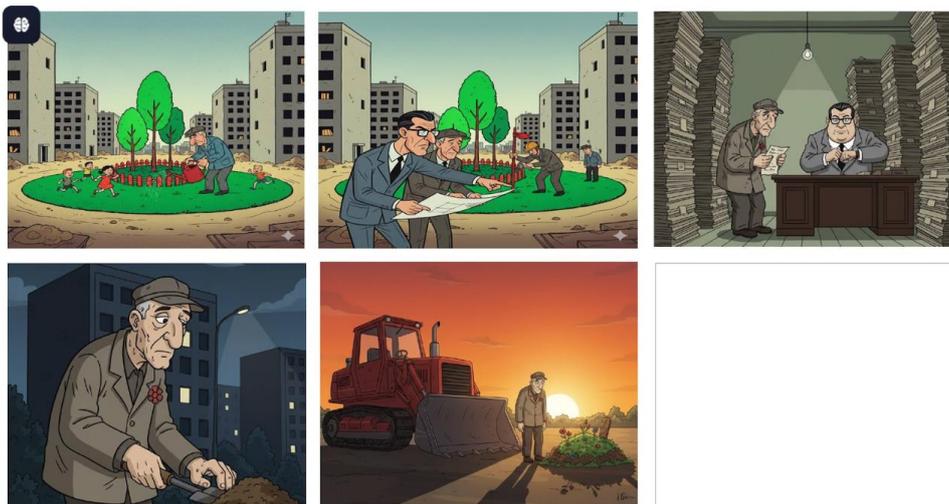

Figure 3. Storyboard generated by an AI tool on the prompt of the third group

Moral: True values cannot be measured in money; protecting nature and collective memory is a moral responsibility towards future generations**.**

The fourth group worked on a character named "Tulip Girl". **Case study**. Tulip Girl lives in a futuristic city dominated by technology and artificial intelligence, but finds solace and purpose in cultivating flowers in hidden pockets of green space scattered throughout the city. Her tulip garden is her sanctuary, a symbol of life amidst the concrete jungle. They use AI tools to document and preserve the last remaining green spaces before they are swallowed up by the relentless expansion of the urban landscape.

However, when the AI systems begin to malfunction and shut down, Tulip Girl and her group are forced to face the challenge of keeping their cause alive without digital assistance, relying on human ingenuity and collaboration. The group selected the following **prompt**: *Modern flat-art illustration: lonely teenage girl, absorbed in her phone, ignoring the world around her, scenes of anxiety and isolation in the bathroom and bedroom, reflections in the mirror, then a moment of healing - smiling person holding flowers, symbol of reconnection, pastel palette, emotional and introspective* (Figure 4).

Figure 4. Storyboard generated by an AI tool on the prompt of fouth group

Moral: Connecting to the digital environment can lead to emotional isolation, and balance and healing come from reconnecting with the self and the real world.

5. Conclusions

In conclusion, the didactics of animation is an emergent field of research that is highly influenced by the rapid development of artificial intelligence (AI). It covers major aspects of teaching and learning methodology, which, combined with the learning efficiency through innovative educational models, lead to outstanding outcomes in visual art education. Examining this through David A. Kolb's experiential learning theory, we can conclude that AI functions simultaneously as a tool and as a catalyst for creative development.

In the current paper, the AI learning experience of second-year university students majoring in animation at Ion Creangă State Pedagogical University of Chișinău was examined, focusing on its use in teaching the structure of visual narratives. Most specifically, students practiced transforming an idea, a brief, or a story into a visually compelling storyboard. Thus, their experiences encompassed all four stages of the experiential learning cycle: concrete experience, reflective observation, abstract conceptualization, and active experimentation. As a result, four artworks were created, showcasing both creative and technological aspects under the influence of AI tools. These developments are expected to further foster a more creative and dynamic learning environment in animation studies.

Furthermore, experiential learning exercises helped students develop critical thinking skills. Through their storyboard activities, they generated original ideas, analyzed the stages of visual development, and applied algorithms to produce their artworks. In this way, students conceptualized their creative process by defining their visual experiences within the animation pipeline. The final products reflect iterative experimentation and personal reflection. This learning experience provides a deeper understanding of how animation students learn, experiment, and navigate the complex process of creative production as a cyclical process of transformative learning. This approach was subsequently used to develop an innovative curriculum that integrates the theory and practice of experiential learning into artistic education.

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