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**Arts-based Approaches for Futures Workshops:
Creating and Interpreting Artistic Futures Images**

Arts-based Approaches for Futures Workshops

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Abstract

As a multidisciplinary field, futures research borrows approaches from different disciplines. However, it often ignores the potential of the arts on a large scale, even though the arts embrace creativity and often depict and narrate imagined futures.

This article applies a case study approach to review and categorize selected arts-based approaches and assess their potential—strengths and limitations—for futures workshops in higher arts education context. The approaches were tried extensively in Art School Futures Labs (15 test labs and 12 actual labs) and a summer school in eight European countries.

Three case examples are scrutinized in more detail to illuminate their use in the co-creation of futures images. One artistic futures image is discussed within the frameworks of Wittgensteinian aspect perception and intertextuality, highlighting the importance of interpretation in unpacking the complex meanings that artistic futures images convey. Finally, some recommendations are given to support the successful use of arts-based approaches in futures workshops.

Keywords: Art School Futures Lab, arts-based, co-creation, futures image, futures workshop, interpretation.

Introduction

In recent decades, futures workshop methods have multiplied and evolved in many directions. This trend parallels the social turn in the arts (Bishop, 2006), the growing adoption of socially engaged arts practices in non-arts contexts (e.g., Berthoin Antal, 2013; Huss & Bos, 2022; Schiuma, 2011), and the increasing popularity of arts-based research within qualitative inquiry in disciplines such as anthropology, education, health, and psychology (Wang et al., 2017). During the past decade or so, scholars have explored the potential of artistic thinking, arts-based approaches, and creative arts-based research for futures studies (e.g., Mullooly, 2022; Gannon & Naidoo, 2020; Lyon & Carabelli, 2016; Candy, 2010). However, integrating these approaches into futures workshops remains relatively limited, and research on arts-based approaches in futures studies is still scarce. This article presents our experiences and findings from applying selected arts-based approaches, investigated and assessed as part of the Futures Art School Trends 2045—abbreviated as FAST45—project.¹ The identified gap was addressed as we designed a futures workshop approach tailored specifically to higher arts education institutions.

Building upon Jonas Svava Iversen's (2006) ideas of futures thinking methodologies for education, the aim of this study is two-fold. Firstly, we investigate how futures workshops can derive advantages from amalgamating non-linear, free-flowing, and playful divergent thinking from the arts with the solution-oriented rationality of convergent thinking. In line with Iversen (2006), we propose that futures workshops can facilitate an exploratory and creative process, combining the strengths of both thinking styles. This perspective guides our interest in experimenting with arts-based approaches in futures workshops.

Art is diverse, and there are increasingly various and conflicting perceptions of art and the artist (Gielen, 2015). Drawing from the philosophical foundations informed by John Dewey, Barend van Heusden, Ludwig Wittgenstein, and David Best, our perspective on art's role in creating futures images emphasizes art's significance in everyday life, human experience, and social interaction. We acknowledge the contribution of contemporary theorists such as Suzi Gablik and Jacques Rancière to the expanded understanding of art and the usefulness of the critical frameworks their theories provide to study various dimensions of art-based approaches.

Gablik's (1991) arguments about the role of art in fostering community dialogue and the transformative potential of participatory and socially engaged arts practices together with Rancière's (2004) exploration of the intersection of politics and aesthetics and how art disrupts established hierarchies and challenges dominant power structures have great relevance for discussions on arts-based work in different contexts, including futures thinking. However, in this article, we affirm the enduring relevance of Dewey and Wittgenstein's insights for our research methodology and its wider applications in studying arts-based approaches in different contexts.

Dewey's (1934/2005) concept positions art as a process that facilitates the expression and organization of experiences, fostering learning and understanding of the world. Van Heusden (2015) extends this view by defining art as a cognitive activity materializing life experience through various forms, promoting reflective imagination without compromising autonomy. Notably, artistic artifacts and performances, as we experience them, evoke thoughts, emotions, and bodily sensations, which are significantly contingent on social practices such as language and culture (Best, 1986, 1992).

Here, Wittgenstein's (1953/2009) idea of aspect perception helps us understand the dynamic process of interpreting futures images in arts-based futures workshops, which constitutes the second interest of our study. Wittgenstein explores the idea that perception involves more than just the physical act of seeing (I perceive x); it also encompasses the conceptual dimension of recognizing or interpreting what is seen (I interpret x as having a particular meaning). He writes, "I observe a face, and then suddenly notice its likeness to another. I see that it has not changed; and yet I see it differently. I call this experience 'noticing an aspect'" (Wittgenstein, 1953/2009, § 113, p. 203). Exemplifying aspect perception, he introduces the classic duck-rabbit illusion to show that the image can be seen as either a duck or a rabbit, highlighting the fluidity of perception. Our perceptions, Wittgenstein claims, are subject to shifts influenced by aspects "lighting up ... [in processes involving] half visual experience, half thought" (Wittgenstein, 1953/2009, § 140, p. 207).

We find this Wittgensteinian idea of aspect perception resonating with Umberto Eco's concept of the reader. In semiotics, Eco (1979) emphasizes the reader's active role in constructing meaning

from a text. He views a text as an open work, and the reader plays a crucial part in its interpretation—not as a passive recipient of fixed meanings imposed by the author, but as an active agent engaging with the text, bringing their own experiences, cultural background, and interpretations to the reading process. Following a post-structuralist thought, influenced by Jacques Derrida's (1967/1976) idea that language, discourse, and textuality play a fundamental role in shaping our understanding of reality, interpreting artistic futures images can be seen as a form of textual reading. Therefore, in this article, we use ‘reading’ in tandem with ‘interpreting’ as we discuss the meaning-making of artistic futures images.

Thus, this article employs a dual focus that is integral to our research. On one hand, we report our experimentation with arts-based approaches in futures workshops, setting the scene (futures jump) and creating futures images. On the other hand, we strive to articulate the process of interpretation in reflecting upon the co-created futures images with an intertextual approach. Our objective is to assess and categorize the various arts-based approaches experimented with in the context of the FAST45 project for futures workshop applications. However, we do not intend to report a strict comparative study of the usability of these approaches but rather point out their strengths and weaknesses. This assessment will concisely review these approaches and delve deeper into the subject with three specific case examples. Following that, we will explore the interpretative dimension of artistic futures images by scrutinizing one of the case examples—a film scene—through the theoretical framework of intertextuality, shedding light on the interconnectedness of textual interpretation and its relevance to futures images. We will argue that while artistically created future images are rich in ideas, their full potential for contributing to, for example, scenario-building benefits from a nuanced process of interpretation. First, however, we will start by contextualizing our research and introducing its methodology.

Background

Aligned with the aforementioned philosophical stance, our perspective of arts-based approaches in futures workshops embraces arts-based learning (Nissley, 2010). Employing a wide range of creative and critical inquiry techniques across various contexts, including arts-based research, organisational development, social education, and societal impact (Boal, 1979; Pässilä, 2012; Schiuma, 2011; Wang et al., 2017), these approaches utilize arts-based thinking, creativity, and

various artistic mediums—e.g., film, literary arts, music, performing arts, visual arts—to explore, express, interpret, and depict complex research questions or concepts. Through creative, sensory, and collaborative engagement, they empower communities and enhance observational abilities, creative thinking, and innovation processes for individuals and groups (Lehikoinen & Siljamäki, 2023).

For example, the integration of art and education can be found in initiatives like utopian pedagogy in sociology (Salmenniemi, Porkola, & Ylöstalo, 2024) and the Futures School in Finnish basic education (Lasten ja nuorten säätiö, 2020). Moreover, art and its diverse approaches have found extensive application in making visible or critically assessing the present, as seen in organizational development and business contexts (e.g., Berthoin Antal & Strauß, 2013; Darsø, 2013; Pässilä, 2012; Schiuma, 2011). These approaches have also supported sustainability transitions during the ecological crisis (e.g., Huhmarniemi, 2003; Latvala-Harvilahti, 2021). Notably, some of these expressions have taken the form of performances, as exemplified in works like *Vähin äänin* (2021) and *Silentopia* (2022).

In organisational development contexts, Meisiek and Barry (2018) note that meaningful insights, evoked by artistic experiences that are “true to the formulated problem” (Meisiek & Barry, 2018, 480), play a crucial role in effective arts-based learning. This highlights the role of meaning-making and interpretation in set contexts (Weick et al, 2005) and collaborative approaches where meanings unfold “in an iterative, active and intense way, to enable participants to foray into new experiences” (Flamand, Perret & Picq, 2022, 18). Along with these ideas and following Best (1992), we find reflection pivotal for arts-based learning, with meaning-making, occurring within the realm of interpretation, unveiling qualities and meanings that are often absent in immediate artistic experiences. This perspective completes our view on the multifaceted roles of art and arts-based learning in shaping diverse aspects of human experience and envisioning possible futures.

Building on this perspective, our examination of arts-based approaches for futures workshops in this article is situated within the context of the social turn in the arts, particularly at the interface between artistic interventions in organizations, and socially engaged arts practices. Signifying a departure from the more traditional concept of art in the modern era, the social turn in the arts

(Bishop, 2006) over recent decades reflects a shift towards social engagement, community participation, and transformative practices in contemporary art. This trend involves the arts as a catalyst for collaborative reflection and co-creation, and the strive for social change becoming an integral part of the artmaking process. For Helguera (2011), the defining feature of socially engaged art lies in its reliance on social interaction as a fundamental aspect of its existence. This form of art prioritizes collaboration with communities, fostering collective reflection and envisioning meanings inspired by community themes. Socially engaged arts practices revolve around shared insights and transformative endeavors, extending beyond traditional art institutions to influence social structures. Applying arts-based learning in organisational and business contexts is often referred to as ‘artistic interventions in organizations’ (Berthoin Antal, 2012). These interventions, like arts-based learning opportunities in general, can embody multiple forms; their duration and the use of artistic domains vary. However, they generally contribute with “their aesthetic ways of knowing and doing, of engaging with people, ideas, artefacts and spaces” (Berthoin Antal, 2013, p. 8). In contrast to the modern individualistic artist concept, rooted in liberal humanism, socially engaged arts and artistic interventions redefine the artist's role by emphasizing the facilitation of collaborative processes over independent work (Lehikoinen & Pässilä 2016).

We believe that utilising arts-based approaches in designing futures workshops for higher arts education institutions is beneficial in meeting the specific needs of these institutions to enhance their futures consciousness. Currently navigating a turbulent VUCA world, which is volatile, uncertain, complex, and ambiguous (Bennett & Lemoine, 2014), higher education institutions can significantly benefit from increased futures consciousness (Lalot et al., 2020) in considering and taking concrete actions toward preferred futures. Recognizing this imperative, the FAST45 project was initiated to specifically cater to the needs of higher arts education institutions. The project encompassed exploring and inventorying ideas related to the futures of higher arts education institutions, creating research-informed future scenarios, the development of a pedagogical concept for a learning platform, and the organization of a debate on policy and decision actions. Through the devised practical workshop approach—Arts School Futures Lab—we aim to elevate their futures consciousness and equip them to navigate the uncertainties of possible futures (Lehikoinen & Tuittila, 2023).

Methodology

In this study, we investigated the use of arts-based approaches in futures workshops at the intersection of arts-based research and futures studies. In line with the dual focus of our study, our research questions included: 1) How can arts-based approaches be categorized, and what is the assessment of their usability in the context of futures workshops? 2) What insights can be gained from studying the interpretation of artistic futures images in the context of our research focus?

We adopted a case study design (Merriam, 1998) to approach our research questions by treating arts-based approaches in futures workshop contexts as distinct entities. Within the case study design, we employed purposive sampling (Merriam, 1998) to gather data from various settings, including 15 test workshops, 12 Arts School Futures Labs, and a summer school, spanning eight European countries. These activities focused on envisioning the future of higher arts education and related topics, with participants ranging from teachers, researchers, and students to professional artists and representatives from arts and cultural organizations. Data collection methods included a literature review, participant observations, participant and facilitator surveys, notes, creative outputs, and reflections. The literature review contributed toward our theoretical framework within the case study design. An online search was conducted using Google Scholar with keywords ‘art-based method,’ ‘art-based learning,’ ‘socially engaged art’ and their variations to identify pertinent literature. Relevant literature was also sought through extensive reading and by examining references cited in the identified texts.

<p>Visual Approaches for Creating Futures Images</p> <ol style="list-style-type: none"> 1. Drawing and Cartoons <ul style="list-style-type: none"> • Feasible and contributes to the visual narration • Requires preparation and access to materials • May generate performance anxiety 2. Bricolages <ul style="list-style-type: none"> • Contributes to the juxtaposition of ideas • Has low skill requirements • Multimodal (visual and text) • Requires preparation and material access 3. Needlework and Crafts <ul style="list-style-type: none"> • Low skill requirements • Engages tactile stimuli • Material-dependent, requiring preparation • Some participants may find it naive, needing it to be more artistic 4. Collection of Images <ul style="list-style-type: none"> • Feasible for triggering future jumps with diverse perspectives • Requires time-consuming preparation for selecting appropriate images 5. Lego-Based Approach <ul style="list-style-type: none"> • Very low skill requirements • Fun, tactile, and non-verbal way to create futures images • Material-dependent, requiring preparation 	<p>Sound and Music Approaches</p> <ol style="list-style-type: none"> 10. Soundscapes and Music-Making <ul style="list-style-type: none"> • Feasible for non-verbal expression and emotional connectivity • Requires preparation and equipment • Requires music and sound-making skills • May generate performance anxiety when used as a task
<p>Technology-Dependent Approaches</p> <ol style="list-style-type: none"> 6. Artificial Intelligence (AI) <ul style="list-style-type: none"> • Provides a quick and feasible way to create visual futures images • Requires AI interaction skills • Leaves artistic image-making to AI 	<p>Corporeal, Interactive and Performative Approaches</p> <ol style="list-style-type: none"> 11. Bodily Imaginative Time-Traveling <ul style="list-style-type: none"> • Non-verbal way to trigger future jumps • Requires skills in movement improvisation • May generate performance anxiety when used as a task 12. Multisensory Walk <ul style="list-style-type: none"> • Feasible multimodal approach • Site-dependent • Participants' perceptions of artistic value may vary 13. Oracle Statements <ul style="list-style-type: none"> • Performative ways to intervene and disrupt thinking • Requires preparation for building the Oracle character • May disturb group flow 14. Interactive Role-Play <ul style="list-style-type: none"> • Fun and experiential narrative construction • Requires preparation for storyline and characters • Involves improvisation and interaction skills 15. Live Action Role-Play (LARP) <ul style="list-style-type: none"> • Highly immersive, experiential, and multimodal • Complex: requires extensive preparation and an appropriately realistic timeframe for task completion • Involves improvisation and interaction skills
<p>Narrative-Based Approaches</p> <ol style="list-style-type: none"> 7. Imaginary News Headlines <ul style="list-style-type: none"> • Feasible for triggering future jumps with diverse perspectives • Requires substantial preparation • May guide or limit participants' focus 8. Collaborative Storytelling <ul style="list-style-type: none"> • Incorporates different participant perspectives • Feasible for narrating futures images • Highly language-dependent, challenging for non-native speakers 9. Short Films <ul style="list-style-type: none"> • Feasible for triggering future jumps • Requires extensive preparation and equipment • May generate performance anxiety when used as a task • Time-consuming 	<p>Gaming</p> <ol style="list-style-type: none"> 16. Board Games <ul style="list-style-type: none"> • Interactive and highly structured • Clear instructions and rules • Requires preparation for access or devising • Purpose and readymade questions may limit discussions • Language-dependent

Figure 1. Arts-based approaches tested in this project.

In addressing our first research question, we explored and tested a diverse range of arts-based approaches, as depicted in Figure 1. This exploration aimed to assess their usability in futures workshops tailored for participants in higher arts education, encompassing both students and professionals. To evaluate usability, we employed a thorough approach. In addition to our observations as workshop facilitators, we conducted an online post-workshop survey for both participants and co-facilitators. Using a Likert scale (1-5), we gauged the effectiveness of the arts-based approaches in inspiring participation, supporting group work, facilitating focus on workshop themes, and aiding in the creation and presentation of futures images and ideas. Open comment fields were included to gather insights into the workshop experience and receive suggestions for enhancing future workshops. Inspired by Byrne (2022), we employed an inductive qualitative approach to extract explicit and implicit meanings from the data,

considering the uniqueness of each arts-based approach. We analyzed each data source separately, integrated findings through constant comparison (Mills et al., 2006), and aligned results with existing literature. The results of this analysis—an approximate categorization of different arts-based approaches and the assessment of their usability—are summed up in Figure 1 and further articulated in the following section of this article.

In addressing our second research question—exploring how artistic futures images are interpreted—we drew upon the Wittgensteinian concept of aspect seeing, emphasizing the potential for multiple interpretations. As highlighted in the introduction, the illumination of various aspects can evoke diverse interpretations in the reader of a futures image. Expanding on this notion and adopting a post-structuralist perspective, we aimed to delve into the understanding of how artistic futures images are interpreted. Our methodological approach to this inquiry is visually depicted in Figure 2, where we illustrate the extension of a futures image—a film scene portraying an art student with an art chip implanted in her brain for enhanced artistic skills—beyond its apparent boundaries through the lens of intertextuality (Allen, 2000; Frow, 1990; Kristeva, 1986). This illustration demonstrates how our interpretations arise from the interplay between the futures image and the diverse texts it invites us to juxtapose. The associative approach we employed—similar to Sigmund Freud's (1899/2010) free association approach used in the arts, for instance, among Surrealists (Willette, 2011)—was an integral part of our intertextual play. Building on this play, we later constructed our interpretative narrative titled 'A Faustian tale of learning in the neoliberal world' in this article. The narrative serves as yet another futures image, eliciting reader responses regarding possible futures.

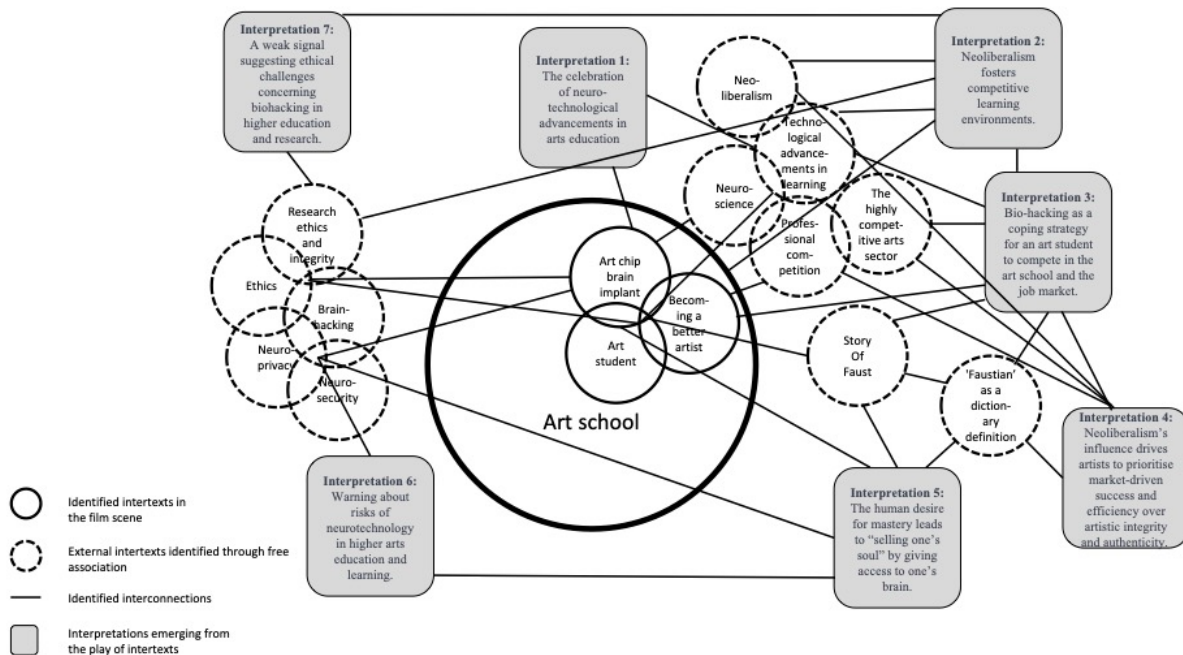


Figure 2. Exploring intertextuality in a film Scene.

For data triangulation (Patton, 1999) to build an in-depth understanding of the arts-based approaches in futures workshop contexts, we applied data from multiple sources (see above) and member checks (Yanow & Schwartz-Shea, 2006) by discussing our observations with local workshop co-facilitators and sharing our preliminary interpretations and conclusions with the consortium partners to collect feedback to ensure the study's validity. Additionally, our three-decade experience in higher arts education and artistic and arts-based work, coupled with our knowledge of futures thinking, positioned us as “insider” (Kemmis, 2009, p. 29) researchers in arts-based approaches within futures workshops for higher arts education institutions, which was the primary focus of this study. Next, we will investigate in detail some of the arts-based approaches as case examples for our research.

Our research followed ethical guidelines outlined by Uniarts Helsinki and ALLEA's European Code of Conduct for Research Integrity, and no prior ethical review was required. We obtained formal permission from workshop participants for data collection. The artistic outputs were co-created through arts-based approaches commonly used in artistic interventions within organizations and socially engaged art, emphasizing collaborative processes and reflections

rather than finalized artistic artifacts or public performances. These outputs were documented through photography. Although some outputs were aesthetically appealing, their primary purpose within FAST45's futures workshops was not focused on aesthetics. Participants' co-reflections on these outputs were recorded. The informed consent, signed by participants, included a note about efforts to anonymize materials, though complete anonymity could not be guaranteed. Participants agreed to the use of collected materials, including artistic outputs, for research publications, teaching, and communication.

Arts-based approaches tested in the futures workshops

The approaches studied served two main functions in the test workshops and Futures Art School Labs: 1) as triggers for a futures-oriented mindset at the workshop's outset and 2) as tools for co-creating and reflecting on futures images. The summer school featured a live action role-playing game (LARP) organized by the School of Commons and Carina Erdmann and Steph Holl-Trieu of *Octopos* at Zurich University of the Arts (ZHdK) to immerse participants in a fictional 2045 world, exploring the futures images of arts education.

In both the test workshops and Future Art School Labs, we utilized futures jump exercises—imaginary leaps in time to a target year in the future—by leveraging selected visual or auditory triggers to inspire participants to envision innovative ideas for preferable futures, moving beyond conventional views of the future as dystopian, utopian, or merely an extension of the present (Heinonen & Ruotsalainen, 2013; Siivonen et al., 2022). In these exercises, we employed imaginary news headlines from the film industry in 2045, images of alternative learning spaces, a multisensory observation walk, and a short film presenting a microchipped art student. These triggers always included a short introduction of the exercise, getting acquainted with the trigger material, and collaborative reflection upon the material supported by guiding questions related to each workshop's overall theme.

We also employed a range of arts-based approaches in the collaborative creation of future images, akin to "'snapshots' of possible futures" (Jokinen et al., 2022, p. 2), which depict possible, probable, or preferred futures for higher arts education. This involved inviting



Figure 4. An installation providing a 'snapshot' of possible futures.

Figure 1 further above summarizes our primary findings, encompassing the strengths and limitations of all arts-based approaches scrutinized in this study. In the subsequent sections, we will delve into a more comprehensive analysis by focusing on three specific case examples: musical soundscapes, a live action role-play, and a short film using mobile phones.

Futuring with musical soundscapes

The world of work is changing, and professionalism is expanding in music and other art fields (Gaunt & Westerlund, 2021; Danhash, 2018). This observation led us to invite music students with diverse orientations at Uniarts Helsinki's Sibelius Academy to identify and discuss weak signals and emerging trends concerning the possible futures of the music field and musicians' prospective competency needs. Using their observations from the discussion in two groups, we instructed them to collaboratively compose a musical futures image or soundscape that would illustrate the future musicians' work and life in 2045. The students were encouraged to be creative by using their voices, any materials at hand, or the musical instruments they had with them. Additionally, they had the option to explore digital composition with their laptops. The groups had 45 minutes to complete the task before sharing the instant and improvisational outcomes.

The outcomes—two distinct musical soundscapes—conveyed intense atmospheres and elicited many emotions. The first one combined piano playing with a rubber glow—a reference to a cyborg element—with live voices, beeping cell phone interruptions, and interruptive, randomly spouting in-app advertisements in free computer applications. The second soundscape entailed computer-created sounds overlapping and merging with recordings in several languages.

Live action role-play

During the FAST45 Footnotes Summer School at Zurich University of the Arts, students and arts education professionals participated in a two-and-a-half-day live-action role-playing game set in 2045, unfolding from a speculative scenario. Prior to the event, each participant created a character to immerse themselves in a fictional scenario. These characters collaboratively

explored the future of higher arts education through set tasks in one of seven parallel workshops. The workshop themes covered a broad spectrum, including digital cultures of education, art, and society, inter- and transdisciplinarity, knowledge commons, institutional structures and strategies, ecological and social sustainability, and the institutional versus the non-institutional.

The setup of the summer school boldly departed from the conventions of traditional conferences, fostering an environment that encouraged intuition, playfulness, and multisensory thinking, particularly during the joint sessions. For example, the opening and daily joint sessions were introduced by an enthusiastic ceremony master and featured elements such as imaginary time travel, somatic exercises, atmospheric soundscapes, and abstract futuristic visuals. These elements helped participants engage in creative and imaginative thinking.

The seven small groups, each with a distinct theme and a name—Dis/continuities, Orangology, Chaos/mosis, Commonalities, Re/programming, Symbiosis, and Plasticity—immersed themselves in thorough and focused explorations of their assigned theme (see above), starting from a pre-recorded future-oriented video-lecture feeds given by speakers such as Brett Neilson, Will Furtado, Thea Reifler & Philipp Bergman, Lina Dokuzović, Klasse Klima, and Brandy Butler. The lectures constituted the central text body subject to commentary, elucidation, and expansion dispositioned as footnotes. These co-created footnotes and other workshop outputs contributed towards FAST45 scenario work for the futures of higher arts education.

Co-creating short films to imagine futures

In our third case, the participants, all professionals in higher arts education, were invited to contemplate the impacts of technology on the possible futures of higher arts education. They were shown a dramatic turn in a short film fragment on biohacking in the arts. The scene involves two art students discussing the microchip inserted in one student's brain to enhance her artistic abilities and make her paint faster (Figure 5).

The participants, including the authors of this article, were tasked with using the fragment as a starting point to brainstorm the next development in small groups. They were asked to use mobile phones to record a short subsequent episode for the fragment. We had two hours to create the plot and film it. Eventually, our group created a short film about a microchip company

negotiating deals with the rector of an art school. In the plot, the company was trying to hide information that sometimes their installed chips are hacked.



Figure 5. An art student with a microchip from a film directed by Roland Javornik, Lina Ghys in the role of Clair.²

Interpreting an artistic futures image

While artistic futures images often convey explicit meanings, a more detailed reflection of the image can yield interpretations, helping the reader understand the profound complexity of the topic depicted in the image. To illustrate this, our intertextual reading—a Faustian tale of learning in the neoliberal world—provides a detailed description into the identified intertexts and their interplay, illuminating aspects that enabled us to perceive the future image—in this case, a film scene—in seven different, yet interconnected, ways.

A Faustian tale of learning in the neoliberal world

As we investigated the film scene depicting an art student with an implanted art chip in her brain to enhance her artistic abilities, we initially considered the scene in the context of

neurotechnology and advancements in learning, viewing it as a celebration of progress in neurotechnology in arts education (Interpretation 1). Upon deeper analysis using the associative approach, unfiltered thoughts, memories, and emotions emerged, revealing the student's ambition for rapid success. This prompted us to contemplate texts on the influence of neoliberalism on higher education. Mark Olssen (2015) for example, writes, "Whereas in classical liberalism the individual is characterized as having an autonomous human nature and can practice freedom, in neoliberalism the state seeks to create an individual that is an enterprising and competitive entrepreneur" (Olssen, 2015, 130). The reference made us to see the film scene as depicting neoliberalism's role in fostering a competitive learning environment (Interpretation 2).

In the film scene, the art student's striving to excel, made us also consider the job market in the arts. International Labour Office in its recent report about the future of work in the arts and entertainment sector states that "New young entrants in the arts and entertainment sector tend to accept unpaid work considered part of the "process" in a very competitive environment, in which young people tend to be overrepresented compared to other sectors" (International Labour Office, 2023, 32). This intertext, sparked us to see biohacking in the film scene as a coping strategy for the student to compete in both the school and job market (Interpretation 3). This insight made us consider the scene as a signal about neoliberalism's influence driving artists to prioritize market-driven success and efficiency over artistic integrity and authenticity (Interpretation 4). This interpretation is supported by the film scene where the art student, with the art chip in her brain, focuses on mastering 19th-century styles like Cubism and Surrealism rather than developing her individual artistic mindset or approach within the contemporary art world.

The contemplation of the coping strategy sparked in us a recollection of the Faustian tale, wherein Faust makes a pact with the devil for knowledge and power ("Faust", 2024). Viewing the scene through this Faustian intertext, the art student undergoes a radical transformation, implanting a microchip to excel in her artistic pursuits. This interpretation suggests that the scene reflects the human desire for mastery and the lengths some individuals are willing to go to achieve it. Unknowingly, perhaps, the art student has sold her 'soul' by granting a neurotechnology company access to her brain for enhanced skills (Interpretation 5). This interpretation evoked an allegorical exploration, connecting to recent news on brain-hacking,

neuroprivacy, and neuro rights (Ienca, 2015; Wild, 2021), inciting us to see the film scene as an alert, warning us about serious risks of neurotechnology higher arts education and more generally (Interpretation 6).

The Faustian myth, known for its exploration of moral dilemmas and consequences tied to Faustian bargains, comes to life in this scene. The art student's choice to augment her abilities through technology sparked ethical concerns, prompting reflection on the potential consequences of manipulating one's innate talents. This led us to ponder guidelines regarding research ethics and integrity such as *The European Code of Conduct for Research Integrity* (ALLEA, 2023), which does not yet acknowledge bio- or brainhacking as misconduct. This observation made us consider the film scene as a weak signal of future ethical challenges, not only concerning equitable learning in higher arts education but also the responsible conduct of artistic research (Interpretation 7).

The nuanced interpretations of the film scene underscore the intricate interplay between technology, education, ethics, and artistic integrity in the context of higher arts education. Insights range from the celebration of neurotechnological advancements to the influence of neoliberalism in fostering a competitive learning environment. Considerations extend to art students' coping strategies in response to a competitive job market, emphasizing the potential prioritization of market-driven success over artistic authenticity. Ethical concerns emerge, linked to the Faustian desire for mastery and the unforeseen risks associated with neurotechnology. These multifaceted perspectives serve as valuable critical considerations for higher arts education institutions, urging reflection on the ethical dimensions of technological interventions and the broader implications for equitable learning and responsible, artistic research.

Discussion

Usability of arts-based approaches in futures workshops

Our close analysis of arts-based approaches in futures workshops suggests that they offer diverse benefits in boosting co-creation and -reflection while also entailing some limitations. For example, some approaches, such as drawing, board games, and Lego-based activities, have low

skill requirements and are accessible to many participants. Others, like AI, music-making, and filmmaking, demand specific skills and may generate performance anxiety.

A notable strength shared by many of these approaches is the ability to facilitate the non-verbal expression of ideas and emotions, contributing to a holistic and imaginative exploration of futures images. For example, cut-out images composed as bricolage serve as visual metaphors for further contemplation. Several approaches, including bricolages, short films, and LARP, offer multimodal experiences, combining visual, auditory, and tactile elements to enrich the futures imaging process. This multimodality (Dressman, 2020) of arts-based work in futures workshops can help the participants acquire, process, and share information in ways that better correspond with multiple intelligences (Gardner, 2000), individual learning styles (Leite et al., 2009; Honey & Mumford, 1992; Kolb, 1984), and different communication styles (Keteyian, 2010).

Further, LARP and multisensory walks stand out for their immersive engagement, providing participants with experiential learning and deeper insights into futures images. Moreover, sound and music-based approaches and bodily imaginative time-traveling excel in creating affective (Niven, 2013) connections with the envisioned futures, arousing emotions, and moods.

Many of these approaches are highly equipment- or material-dependent, necessitating early preparation to access materials, instruments, and tools. This dependency can impact the feasibility of these methods. AI-based image making (Figure 6) lacks concrete, physical and sensory interaction with materials. Additionally, it leaves much of the creative act to AI while the person using AI retains a degree of creative agency in form of commands depending on the person's AI interaction skills.

Some approaches, like collaborative storytelling and board games, rely heavily on language and may pose challenges for non-native speakers. In addition, approaches such as LARP can be highly complex, calling for supportive elements to maintain participant endurance and motivation. For example, the LARP that we participated in presented the participants with a range of intricate challenges despite the presence of facilitators and a workbook outlining the game's structure, schedule, and tasks. These challenges included maintaining imaginative

character, reflecting on the provided extensive set of questions, sustaining motivation, managing fatigue, navigating group dynamics, and adhering to established deadlines. Also, some approaches, such as filmmaking, can be time-consuming, challenging the schedule and sufficient co-reflection of the produced outputs. Finally, perceptions of artistic value vary across the approaches. Some participants with a background in the arts may consider specific approaches less artistic or naive, or they may find arts-based approaches instrumental, impacting their engagement.

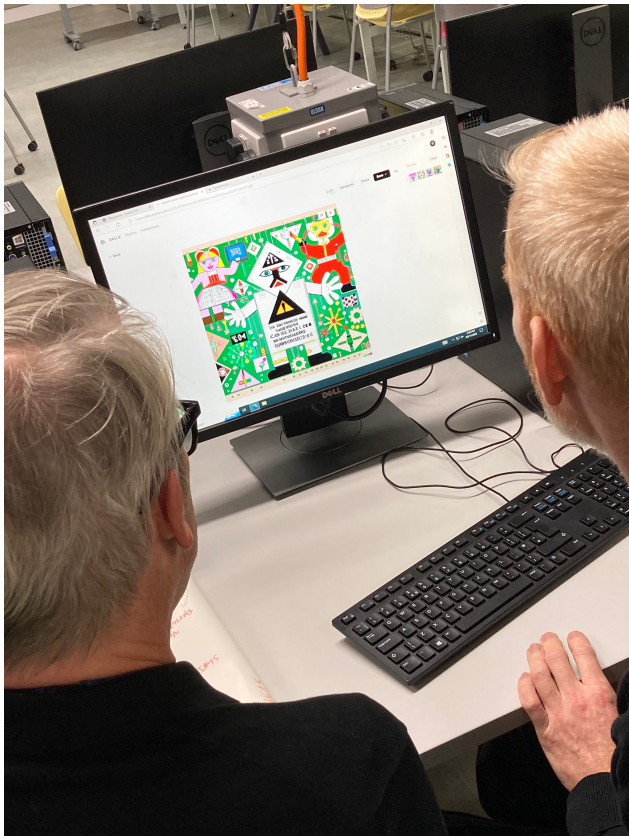


Figure 6. AI-based futures image making.

On interpretation

As our interpretations of the film scene show, words are tools to navigate inherent complexity in interpreting an artistic futures image. However, words do not directly reflect reality; Jacques Derrida's (1978) concept of 'différance' demonstrates their interconnected nature, resulting in elusive final meanings. Thus, our interpretations intertwine with the nuances of language,

branching into dictionaries, myths, news articles, and other associations, rendering assigned meanings unstable. Grounded in the theory of intertextuality, this phenomenon is explained by recognizing that both the creators of future images and the interpreters are culturally embedded. The creators are influenced by external textual sources, while the interpreters construct meanings by connecting these images to a networked textual framework shaped by their prior experiences (Worton & Still, 1990; Kristeva, 1986). This interconnected relation between external texts and the artistic futures image in interpreting the image contributes to the richness and depth of our understanding of the complexity of meanings that the reading of futures images can yield.

Linking our interpretative process to Eco's (1979) notion of the 'reader' of text and Wittgenstein's (1953/2009) idea of aspect seeing, we propose that the reader, akin to the interpreter of a futures image, possesses agency to construct meanings within certain limits. These limits are tethered, on one hand, to what is explicitly present in the image and its immediate context—elements the reader recognizes—and, on the other hand, to the cultural context of the reader (Best, 1986), which establishes boundaries for aspects to light up and evoke associations. Without adequate justification, the interpretations risk being confined to a realm of beliefs and personal preferences rather than engaging in critical discourse (Best, 1992).

As demonstrated above, the openness of an artistic futures image allows for multiple interpretations influenced by the interplay of intertexts that the Wittgensteinian aspect seeing makes possible. This recognition of interpretative flexibility lays the foundation for our argument, which, following Best (1992), asserts that interpreting artistic futures images demands reasoned analysis.

Closing remarks

In our exploration at the intersection of arts-based research and futures studies, we delved into the application of arts-based approaches within futures workshops, addressing key questions regarding their categorization and usability, as well as gaining insights into the interpretation of artistic futures images. In alignment with Mullooly (2022), we affirm that arts-based research is integral to cultivating critical futures, serving as a pluralistic, culturally responsive, and nuanced

form of public scholarship (Mullooly, 2022, p. 162). Our exploration of various arts-based approaches within futures workshops underscores their capacity to offer diverse benefits, including accessibility, non-verbal expression, emotions, immersive experiences, and multimodality. These approaches, categorized into visual, technology-dependent, narrative-based, sound- and music-based, corporeal, interactive, and performative, as well as gaming, present unique strengths and considerations for envisioning futures images. Facilitators are pivotal in tailoring these approaches for optimal impact within specific contexts.

Moreover, our analysis highlights the interpretative complexity of artistic futures images, emphasizing the interconnected nature of language, culture, and reason. Drawing inspiration from Wittgenstein's idea of aspect perception, we advocate for a reasoned and analytical approach to interpreting these images, steering clear of subjective interpretations. As we conclude, we underscore the versatility of arts-based approaches across diverse organisational contexts, emphasizing the need for careful consideration when selecting and combining methods to enhance the richness of futures exploration. Recognizing the potential of art-based research to contribute to critical futures, our findings reinforce the importance of collaboration, clear communication, and a multifaceted understanding of art in fostering open-minded participation within futures workshops.

Acknowledging the limitations in detail of description concerning the various art-based approaches assessed in our study, we found that arts-based approaches in futures workshops offer many benefits, including accessibility for diverse participants and facilitating non-verbal expression of ideas and emotions. These approaches provide immersive, multimodal experiences and can create emotional connections with envisioned futures. Each approach offers distinct advantages, making them suitable for different contexts and participant groups. However, some approaches may demand specific skills, require early material preparation, pose language challenges, or be time-consuming.

In the realm of employing arts-based approaches within futures workshops, the importance of interpreting artistic futures images becomes evident. Our analysis illustrates that the interpretative process hinges on words interwoven with associations, shaped by external texts, myths, images, and references—a manifestation of intertextuality. This interpretative necessity is

crucial for comprehending the intricate meanings embedded in these images, as readers engage in thoughtful contemplation. Following Best (1992), and drawing from the Wittgensteinian idea of aspect perception, we recognize the interconnected nature of language, culture, and reason, emphasizing the need for a reasoned and analytical approach to interpreting artistic futures images. This approach ensures a departure from subjective interpretations, guiding readers to navigate the nuanced interplay that shapes the significance of these images.

It is worth noting that arts-based approaches are versatile and can be effectively utilised across various organisational contexts. However, facilitators need to carefully consider each approach's unique strengths and challenges when selecting, ensuring that it is the most suitable for the particular futures imaging exercise at hand. Facilitators play a crucial role in tailoring these approaches for optimal impact within the chosen context by combining multiple methods or adapting approaches to align with specific goals, enhancing the richness and depth of the futures exploration process.

Perceptions of artistic value can vary among participants, influencing engagement. Therefore, when introducing arts-based approaches in futures workshops, it is crucial to recognize that art is a multifaceted concept, and people's diverse connotations can impact their engagement. To address potential misunderstandings, it is beneficial to point out that arts-based approaches often draw from socially engaged arts practices emphasizing co-creation and co-reflection. Moreover, arts-based work in futures workshops extends beyond creative artmaking, committed observation, and expression, encompassing communication, idea exploration, evocation of meanings, and emotional resonance. As such, artistic futures images have as much to do with experiencing, reflecting, and interpreting as they have to do with making, performing, and exhibiting. To ensure favorable participation, it is vital for facilitators to collaborate closely with the organization's representatives and inform the participants about the workshop's theme, objectives, and approaches.

Based on this research, arts-based approaches can encourage fresh perspectives on futures by embracing diverse ways of imagining and knowing, eliciting a more profound and intricate comprehension of human experiences, meaning-making, and the world. Art can contribute to

future thinking in various ways: by inspiring alternative futures through mediums like science fiction in films and literature, encapsulating future scenarios through artistic illustrations, and posing thought-provoking questions that challenge our perceptions and understanding of the future.

Building upon the insights gleaned from our exploration of arts-based methods in futures workshops and the multifaceted contributions of art to futures thinking, future research endeavors could delve deeper into areas such as the impact of cultural reflection in shaping future scenarios, the potential of speculative design practices to inform decision-making processes, and the role of community dialogue facilitated by art in fostering collective envisioning of sustainable and equitable futures. Incorporating perspectives from theorists such as Jacques Rancière and Suzi Gablik into these investigations could offer valuable theoretical frameworks and critical insights into the politics of aesthetics and participatory art, enriching our understanding of the role of art in futures studies and its broader implications for societal change.

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Endnotes

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