

POST-DIGITAL ART PRACTICE IN EDUCATIONAL ENVIRONMENT

Ludmyla Kondratska

Department of Musicology and Methodology of Musical Art, Faculty of Arts
Ternopil Volodymyr Hnatiuk National Pedagogical University
ul. Maxym Kryvonos 2, 46024 Ternopil, Ukraine
E-mail address: luda.kondratska@gmail.com
ORCID: <https://orcid.org/0000-0002-2885-138X>

Liudmila Romanovska

Social Work and Pedagogics Department, Humanities Faculty
Khmelnitsky National University
ul. Institutaska 11, 29006 Khmelnytsky, Ukraine
E-mail address: Lroman@online.ua
ORCID: <https://orcid.org/0000-0001-7547-4575>

Tetiana Kravchyna

Department of Foreign Languages, Faculty of International Relations and Law
Khmelnitsky National University
ul. Institutaska 11, 29006 Khmelnytsky, Ukraine
E-mail address: tkravchyna@gmail.com
ORCID: <https://orcid.org/0000-0001-8407-6667>

Yuliia Ovod

Social Work and Pedagogics Department, Humanities Faculty
Khmelnitsky National University
ul. Institutaska 11, 29006 Khmelnytsky, Ukraine
E-mail: ovod-julia@email.ua
ORCID: <https://orcid.org/0000-0001-5226-2422>

Valentyna Litynska

Marketing Department, Faculty of Economics and Management
Khmelnitsky National University
ul. Institutaska 11, 29006 Khmelnytsky, Ukraine
E-mail: litinskav@ukr.net
ORCID: <https://orcid.org/0000-0001-9272-4118>

Mykola Novak

Department of Psychology and Pedagogy
Faculty of Health, Psychology, Physical Culture and Sports
Khmelnysky National University
ul. Institutyska 11, 29006 Khmelnytsky, Ukraine
E-mail: novakilinovak@gmail.com
ORCID: <https://orcid.org/0000-0003-0221-6342>

ABSTRACT

Aim. The aim of the article is to validate the pedagogical model for mastering post-digital art practice by future designers.

Methods. Its content is determined by the integral anthropotemporal methodology of the organisation of the hybrid educational space, which involves the harmonisation of the intellectual and emotional interaction of the subjects of post-digital art education to project a possible future – Salvation. The priority in this process is the open gestalt of artistic questioning and realisation of the network design of beauty as a spiritual-ontological factor, and the criteria are: the ability to recognise the artistic meaning of the happiness of existence in the polysemy of the text; the competence of theoesthetic modeling of artistic dialogue in the post-digital space and the experience of creating beauty as a good.

Results. The implementation of the technological convergence of participatory edutainment and spiritual self-coaching contributed to the mastery of the specified pedagogical model by future performers. The result of its implementation was the acquisition by future performers of post-digital competencies of entropy-informational and adaptive-selective development, performative improvisation, artistic education as an attraction ('the contemplation' of an individual in the self-sufficiency of aestheticized Lighting).

Conclusion. Thus, mastering the space of post-digital art practice by the future performer involves the activation of his vivid experiential feeling within the artistic sense of oecumenism. A new technonature of the world cannot be built without the human experience of arbitrary paseistic impulse.

Keywords: post-digital art, anthropotemporal methodology, technological convergence, art class, competence in theoesthetic modeling of artistic dialogue, hybrid educational space, criteria, pedagogical conditions

INTRODUCTION

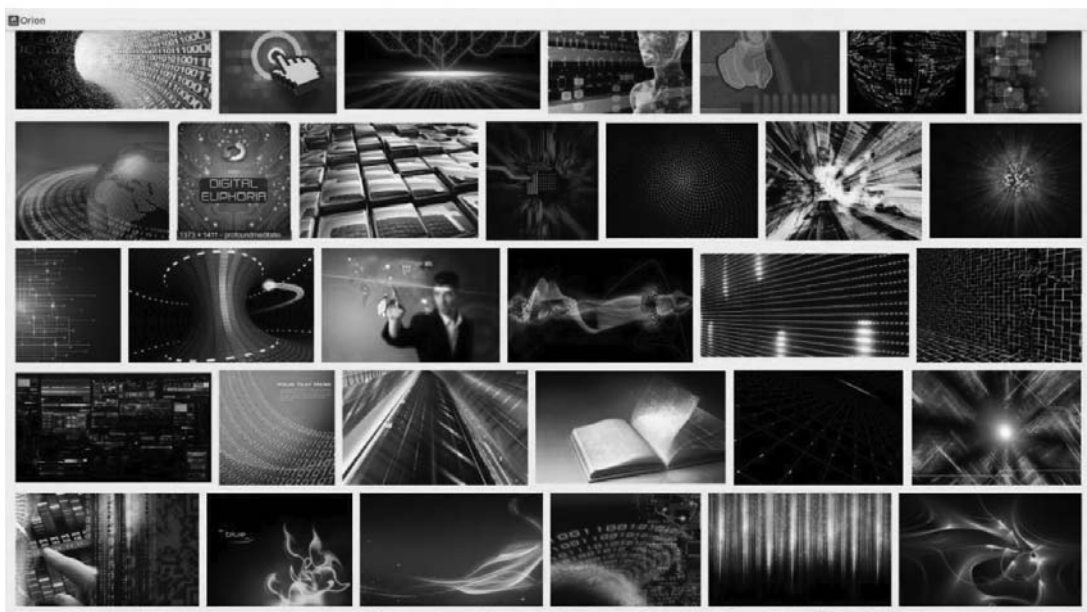
Disappointment in total digitisation prompted a new generation of artists, designers and thinkers to turn to post-digital art practice to restore a person's freshness of view, distract him from the routine processes of working with a computer, and cause a desire to reflect or feel himself.

As you know, the word "Post-Digital" was introduced by Kim Cascone in the article "Aesthetics of failure: post-digital trends" (Cascone, 2017; Cramer, 2015) (Figure 1).

Figure 1

Florian Cramer, Google.nl image search result for "digital", 10/2013, 2013 [Clip art]

Note. Article published under the CC license.



Source. Cramer, F. (2013). *Google.nl image search result for "digital", 10/2013 [Clip art]*. In F. Cramer, What is 'post-digital'?. *A Peer-Reviewed Journal About Post-digital Research*, 3(1), 11-24. <https://doi.org/10.7146/aprja.v3i1.116068>

Australian media artist Ian Andrews used the term "post-digital aesthetics" to criticise the "idea of digital progress" and the "movement towards ideal representation" (Andrews, 2013, p. 256). According to Andrews, post-digital aesthetics denies the pathos of the so-called "digital revolution". Instead of extolling the qualities of a digital image, artists draw attention to the shortcomings of digital processes. Instead of demonstrating the high quality of a digital artifact, they are interested in errors, failures and obstacles. This brings their works closer to the aesthetics of minimalism. Moreover, Cascone and Andrews contrasted the concept of "post-digital" aesthetics with the techno-utopian ideas of the first generation of digital artists, who associated the idea of a

“digital revolution” with inevitable technological and aesthetic progress in the arts and sciences. Their associate, A Scottish scientist Tim Fawns (2019) lists possible tracks for “post-digital” art, believing that the artist will try to avoid the technological world: from low-tech to biotechnology – up to their critical fusion. The same focus of Postdigital art on the humanisation of digital technologies – through interaction with biological, cultural and spiritual systems, between cyber and real space, intervisual, tactical, auditory and kinesthetic media events in interactive and collaborative forms – is argued by an Israeli-American art critic Mel Alexenberg (2011).

So, “post-digital art practice” is neither bright pixelated pictures nor a demonstration of digital code elements or animation made on a computer. As the research shows, the routine processes of working with a computer (generated digital failures, glitches, etc.) are not always effective, on the contrary, cause the subject to need self-understanding (Figures 2–3):

Figure 2

Sasa Stucin, Maiko Takeda, 2013 [Photograph]



Note. The image depicts an intricate headpiece designed by Maiko Takeda, characterized by its ethereal and avant-garde appearance. The headpiece features delicate, spiky elements that create a visually striking and otherworldly effect. Published under a Creative Commons license.

Source. Stucin, S. (2013, June 5). *Maiko Takeda* [Photograph]. Flickr. <https://www.flickr.com/photos/sasastucin/8900714214>

Figure 3

Henriette Harris, A dreamy portrait, 2019 [Painting]



Note. Henriette Harris, *A dreamy portrait* that captures the very moment when a person is immersed in thoughts or memories and the ethereal wind of distortion temporarily sweeps through their mind. Published under a Creative Commons license.

Source. Harris, H. (2019). *A dreamy portrait* [Painting]. In E. L. Sarah (Ed.), *Henrietta Harris and Photoshop Response*. <https://emmaleighsarah.wordpress.com/2016/03/20/henrietta-harris-and-photoshop-response/>

Therefore, in search of a new sensuality, the actionist artist takes decisive steps from “digits” (algorithmic, fractal and generative types of art, Net art, softwareart, code art, browser art) – through tactical media, hacktivism – to the forced *interactivity* of “post-digits” and post-Net art (using real materials based on the principle of computer forms and pixels).

Thus, the German artist Aram Bartholl, known for his studies of the relationship between the digital and physical worlds, often turns to forms of collective cooperation openly placed in urban spaces: workshops, quests, mass participation when creating his deliberately simplified models, low-tech objects, cardboard versions of pseudo-computer interfaces and media iconography. He presents all these projects as the results of the social behaviour of random subjects (Figures 4–5):

Figure 4

Aram Bartholl, What are you waiting for? 2014 [Clip Art]



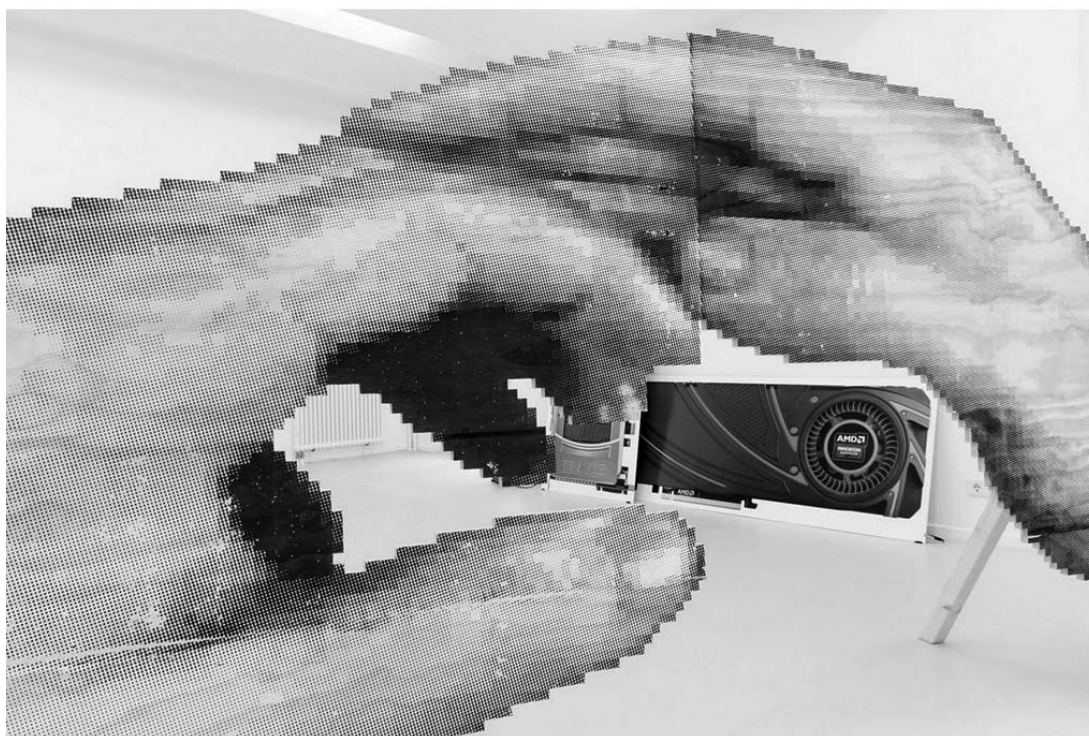
Note. Published under a Creative Commons license.

Source. Bartholl, A. (2014). *What are you waiting for?* [Clip art]. Tique (publication on contemporary art). Antwerp, Belgium <https://arambartholl.com/old/what-are-you-waiting-for-5.jpg>

The uniqueness of art is not limited to a number; it cannot be part of the software running offline on a dedicated machine + wall hanging display with an on/off button.

Figure 5

Aram Bartholl, What are you waiting for? 2014 [Clip Art]



Note. Published under a Creative Commons license.

Source. Bartholl, A. (2014). *What are you waiting for?* [Clip art]. Tique (publication on contemporary art). Antwerp, Belgium. <https://arambartholl.com/old/what-are-you-waiting-for-6.jpg>

It is about the interaction of the addressee and the artifact, since algorithmic programs create the illusion of an autonomous life of the work to such an extent that it “slips away” from its addressee. That is, post-digital art appeals to the sensory-emotional experience of *an anthropological trajectory* – real or simulated with the help of interfaces. The uniqueness of such *immersion* lies in the fact that it leads to an aesthetic impression. Moreover, we are talking about the so-called “new”, *post-digital* aesthetics. Its author, English writer and media artist James Bridle (Bridle, 2011) tried to visualise his concept on the pages of his blog (Available at: <http://booktwo.org/>).

RESEARCH PROBLEM (CHALLENGES OF NETWORKED EDUCATION)

The defined aesthetic discourse provoked the emergence of actor-network theory (Callon & Michel; Latour & Bruno; Law & John) (Latour, 2005) and Karen Barad’s

theory of agent realism (Barad, 2012). Based on the idea of performative neomaterialism, their representatives criticise the anthropocentric idea of the spatial, ontological and epistemological supremacy of man (Braidotti, 2013; van der Tuin & Nocek, 2019). According to their position, matter is the active intention of the interactive formation of a network (network practices) of human and non-human agents as strong individual subjects equally capable of action (Fuchs, 2023; Hickey-Moody, 2020). And although the changed image of artistic subjectivity actually means going beyond the essentialist limits of the Cartesian “mind-body” dualism (Herlitz & Zahn, 2019; Reddington, 2022). The introduction of the idea of the subject-rhizome, “the network as an artist” into the post-digital educational space can open, according to the “new materialists”, new conditions and opportunities for creative “intra-action”.

The concept of post-digital learning space (Jandric & Hayes, 2020; Carvalho et al., 2022) has its own background (Bourdieu’s “*habitus*” conceptual sphere (Carvalho et al., 2022), Lefebvre’s “spatial triad” (Lefebvre, 2006), practical online education (Knox, 2019) and is now the subject of lively reflections (Ahern, 2022; Boys, 2022; Goodyear, 2022; Gourlay & Oliver, 2018; Green, 2022; Pischetola, 2022; Wardak et al., 2022). However, paying tribute to the creativity of this educational discourse, researchers are increasingly insisting on the thesis that it is ideologically limited by social constructivism (Annemarie Hahn). This, in their opinion, “prevents” adequate consideration of a wide range of machine actors that shape educational activity in the network (Dirckinck-Holmfeld et al., 2012; Nordquist & Laing, 2015; Wardak, 2022). The model of “three-unit learning” is even more strongly promoted: “we-think” – “we-learn” – “we-act” (Jones et al., 2015, p. 47). Its essence is the idea of an objective collective interweaving of the efforts of all actants participating in the development of learning design, and therefore the recognition of the effectiveness of Andy Clark’s “born cyborgs” (Clark, 2003). Here are some suggestions:

The transition to the post-digital era opens up the opportunity to start learning anew, together; it is hope. However, theorising along will not provide such hope, and the post-digital dialogue must realise and specify its politics. (Jandric & Hayes, 2020, p.189)

Now the rules have changed, and all of our “human” traits, including identity politics, are now collectively intertwined with our tools. Therefore, a post-digital “we-learn” is a necessary initial path to rethinking what we can get in the future through trialectics. (Ford, 2023, p. 2)

New opportunities await us if we open up these and other questions related to collective learning, which arises as a result of combining people and machines. This can affect educational policy in radically new directions, causing the destruction of rational claims in economic policy. (Jandric & Hayes, 2020, pp. 285-297)

These proposals are based on the multiple coexistence of different theories of multimedia and interactive learning – connectivism (Raes, 2022), experiment (Kolb, 2015) and the Technologies for Education: Devices and Diversity (TEDD) educational model

(Bissoli, 2017) in the digital interface of the Digital Didactics Introductory Training course (DDIT).

However, the noticeable reduction of the epistemology of the text to clip statistics and cluster perception “introduction of new methods of *neuromanagement* through *scanning* of the brain, and then *sculpting the necessary abilities*” (Wilson, 2022, p. 65) creates the risk of the illusion of enlightenment and individual sovereignty. After all, remaining in paradigm of “learning engineering” (Dede, 2018), representatives of the theory of agent realism ignore the fact that the conversational design of the network dialogue ceases to depend on the personal qualities of the teacher and his student, which means that it destroys the balance between their digital and “live” communication.

PURPOSE OF THE STUDY

Taking into account the risks of this position, the aim of the article is to design a conceptual design for a hybrid learning space where the future performer emerges not as a human-machine interface, a tropic trajectory, or an imaginer, but as a passionate with maximally activated imagination and volitional impulse in the essential sense of the oikumene.

RESEARCH METHODOLOGY (TUNNEL EXIT OPTION)

The proposed educational concept is based on *the anthropotemporal methodology* (Bryant & Knight, 2019; Duran, 1999), which describes the transformation of the personality of the performer through the space-time of meeting with the Other. However, the specifics of subjective time and the ratio of three main modes in it (past, present and future) depend not only on the category of intersubjectivity. It is about a gradual movement from a phenomenological understanding of time –subjective, intersubjective – to *an ethical one*. That is, the goal of transdisciplinary education is not just the intellectualisation of the management of system processes, but the encouragement of the educator to self-knowledge as a mental act. This involves pedagogical support of the innate human need for *interrogability* of Truth, as a category not of knowledge, but of *being* (Fawns, 2019). It has nothing to do with the formal retention of digitised objective information, and its transcendental character appears as a factor in the performer’s personal development.

The structural components of the anthropotemporal methodology are in Table 1:

Table 1

Anthropotemporal methodology of organizing a hybrid learning space for a performer of post-digital art practice

Structural components	Characteristics of structural components
Approach	Transcendent (harmonisation of the intellectual-emotional interaction of the subjects of post-digital art education to project a possible future – Salvation)
Paradigm	Epistemological aesthetics of sociocultural transitivity of post-digital art practice
Priorities, guidelines	An open gestalt of artistic questioning and realisation of the network design of beauty as a sacred and existential factor
Criteria	Ability to recognise the artistic meaning of the happiness of existence in the polysemy of the text. Competence of theoesthetic modeling of artistic dialogue in the post-digital space The experience of creating beauty as a good.
Selection procedure	The performer-artist's act of humble self-definition as God's resemblance in the rhizomorphic post-digital art surroundings

Source. Own research.

The lifelong research on this issue shows that the success of this technique is provided by the implementation of metadidactics – an atmosphere of constant creation of laws and principles of “teaching for coexistence with the Truth” (Latour, 2015, p. 15).

PEDAGOGICAL MODEL OF MASTERING POST-DIGITAL ART PRACTICE

The specified model implements the paradigm of eschatological contemplation of reality as the awakening of the living experience of the passionate urge of homo artes to the meaning of the ecumene through a unique moment of conscientious choice of faith-love. The art class unexpectedly appears as an effective space for the interpenetration of artistic and educational gestures on the threshold of solving the mystery. Student participation in hermeneutic performances, author's master classes, creation of thematic collages, media interpretations – this is the realm of his serendipity, at least randomised epistemological competence, including its structural components: maieutic-contemplative; imaginative performance; value-meaningful happening as personal transformation. They involve activating new directions of post-digital performative representation of anthropological and epistemological metaphors of the genre-style diversity of the artistic image of new knowledge.

Motivation for success prompts the future performer to reveal the following abilities:

- treating paradox as a performative act, a manifestation of creative freedom of the spirit;

- restoration of an active desire for the Truth on the basis of faith – intelligent, heartfelt and unquenchable;
- determination of the additive volume of problems of art practice based on the creation of motivational alliances of coexistence with its essence;
- the ability to cooperate with an alternative position in art practice, to understand the ambiguity (“metataxity”) of voiced, visualised being and its bearers (as bearers of the value of the image of God) – for the sake of the prospect of establishing the Truth; tolerance of his presence in every artistic action;
- the ability to go beyond everyday perception and experience the “experience of liminality”, which is necessary for internal change to understand: in the difficult modern world, thanks to the mercy of the Savior, everyone has a chance to remain “in the position in which he is called, without becoming a slave of people” (*King James Bible*, 1769/2017, 1 Corinthians 7: 20-23).

The effectiveness of the organisation of this process, as our experience has shown, is ensured by implementing technological convergence of participatory edutainment (methods of intuitive prediction: “palimpsest”, “missing trope”, divination-performance) and spiritual self-coaching. Its essence is determined by the following patterns: antinomy of alternate and co-development ways of self-realization of the performer’s creative personality (principle of the Ecclesiastical circle); overcoming dissipativeness and diffusivity as factor in creating the unity of the self-image of the performer.

- These technological regularities are based on the principles of:
 - integration mobility;
 - entropy-information and adaptive-selective development;
 - performative improvisation;
 - personification of educational activities, attraction (in our case, “the contemplation” of an individual into the self-sufficiency of aestheticized Lighting) (Kondratska et. al., 2023).

The Remind digital application and the LivingTree social network appear as means of its implementation. Aviary, Gren Screen, KaleidaCam, PicsArt, Doodle Art, Paper 53, Procreate! can be used to visualise personal creative endeavors, and which provide access to animation, green screen and iMotion video. In creating digital portfolios and presentations, the following programs will be useful: Creatubbles, SeeSaw, Artsonia, Google Drive, Canva, Padlet, Prezy, Mapping Master, Buncee toolkit.

Thus, the pedagogical conditions for the effective implementation of the specified technological convergence of self-coaching in the hybrid educational space of the art class are:

- organisation of the performative activity of the modern “digital native” as a nomadic pilgrimage, inspired by the charisma of restoring beauty of own spirit with love energies;
- preservation of cultural and historical continuity of artistic and pedagogical knowledge in the post-digital educational process;

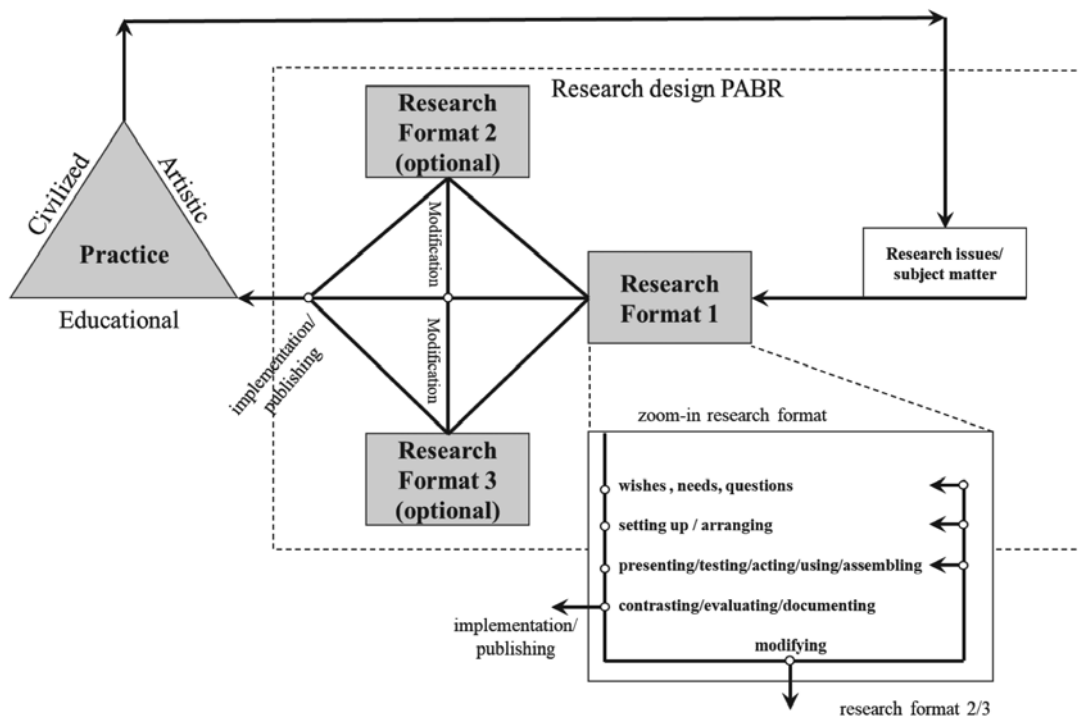
- creation of a co-existent educational environment in the art class, where the implementation of performative didactic methods is based on randomised epistemology.

RESEARCH DESIGN FORMAT

The development of Pedagogical Model for Mastering Post-Digital Art Practice utilised a comprehensive research design framework. Below is a roadmap of the research design format for collaboration between artistic practice and academic research in the post-digital educational space, proposed on the basis of two postgraduate programmes (Figure 10). Within a broader study design, a few research formats can interrelate, alter and complement each other. For example, hypotheses discovered during the Lab Series (research format 1) can be verified through Performance Testing (research format 2) and applied in the Imaginary Assembly (research format 3).

Figure 10

The logic of the cyclical movement from practice to research question, and then to research formats.



Source. Own research.

Sample

The study involved 139 Master's students from the specialties 014.12 Secondary Education (Visual Arts) and 022 Design, distributed between Ternopil Volodymyr Hnatiuk National Pedagogical University (72 participants) and Khmelnytsky National University (67 participants). The formative experiment lasted during 2021-2023 academic years.

Research Tools

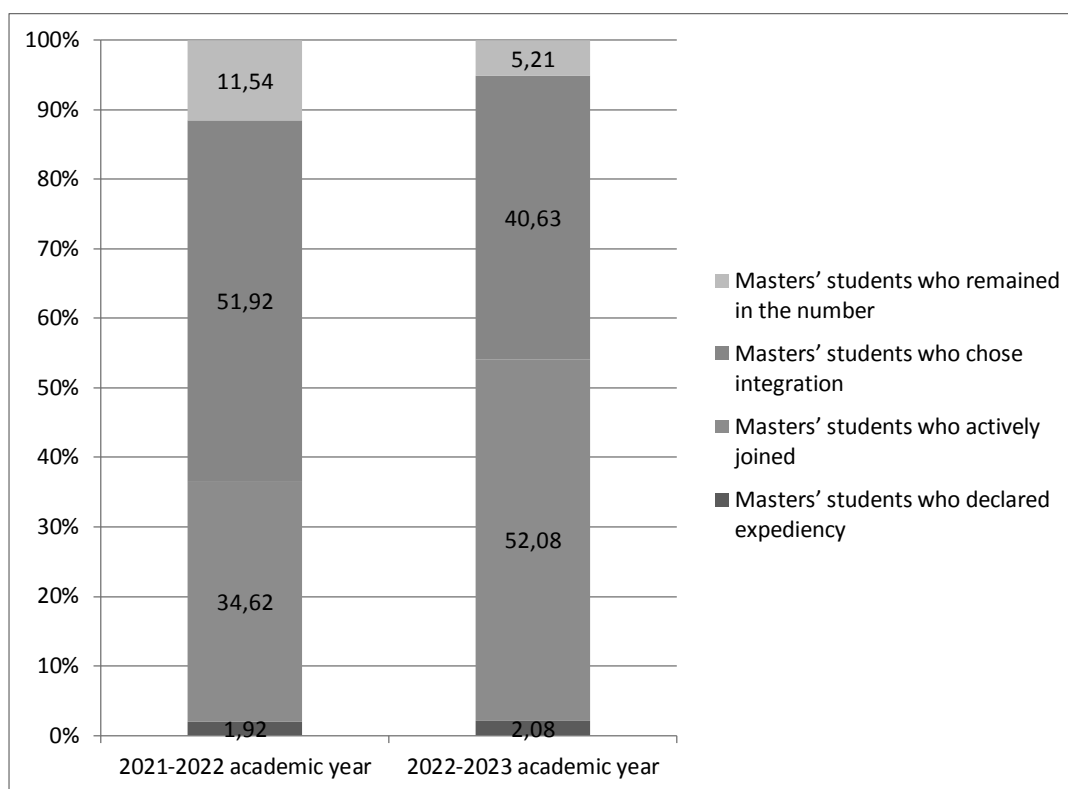
To diagnose the post-digital competences of future performers, the following methods were used: Self-Regulation Questionnaire (SRQ) (Ryan & Deci, 2000), Goldsmiths Musical Sophistication Index (Gold-MSI), created by psychologists at Goldsmiths University to assess the development level of a performer (Müllensiefen et al., 2014), Academic Motivation Scale (AMS) for diagnosing different types of motivation to learn post-digital art (Vallerand et al., 1989), a test questionnaire for measuring motivation to succeed in post-digital art by Mehrabian (The Mehrabian Achieving Tendency Scale, MATS) (Scannell & Allen, 2012), a test of post-digital technological pedagogical knowledge—TPK (Schmidt-Crawford et al., 2021).

RESEARCH OUTCOMES

A longitudinal study was conducted on the attitudes of Master's students at the Faculty of Arts, specialising in 014.12 Secondary Education (Visual Arts) and 022 Design, towards the implemented methodology of post-digital education as a factor in professional self-improvement. The object of assessment were the performative results presented during the 2021-2022 and 2022-2023 academic years. Choosing the method and strategy of hierarchical tree clustering, as well as the measure of Euclidean distances between objects, we calculated these distances using the formula.

$$L = \sqrt{(\sum_i (x_i - y_i)^2)}$$

Carrying out successive calculations made it possible to build a cluster tree (hierarchical tree plot). Below we present a graphic display of the results of the implementation of the proposed pedagogical model during 2021-2023 (Figure 11).

Figure 11*Results of pedagogical model implementation during 2021-2023*

Source. Own research.

The results of the analysis (Figure 11) reveal that despite a minimal percentage of evaluations of the initial declaration of the appropriateness of technological convergence of participatory edutainment and spiritual self-coaching (respectively, 1.92% in 2021 and 2.08% in 2023), the active involvement of Masters's students' in the world of performative didactics significantly increases (from 34.62% to 52.08%), and the percentage of those choosing the integration of digital and post-digital education, or wishing to remain in the digital domain, noticeably decreases. In the first case, it's about 11.29%, and in the second – 6.33%.

CONCLUSIONS

Modern art education is becoming open to change and needs more and more relevant experience. However, in the conditions of post-digital educational ecosystem, all the efforts of the subjects of the pedagogical process should be aimed primarily at supporting the personal development of the future artist: to develop his courage not to become a slave of radical digital citizenship on the way to a culture of dignity. From this point of view, the post-digital period can be considered a rather productive

(re)turn to the main educational problems, albeit in the context of a society constituted by ubiquitous digital.

Despite the constant change of educational models and methodologies, we hope that, firstly, the introduction of the proposed pedagogical model into the practice of post-digital art education, will stop the student from global monotony and fatigue in an attempt to contain the volumes of information about the spreading world, and the awareness of non-compliance with modern criteria of creativity. Secondly, an alternative view of the dialogue between authentic internal “humanity” and external and foreign “technology” (Bayne, 2015; Oliver, 2016) will make it possible to circumvent the prevailing neurotech transformation of a person’s artistic consciousness to realize his eternal desire for freedom.

REFERENCES

- Ahern, K. (2022). Sound scaping learning spaces: Online synchronicity and composing multiple sonic worlds. *Post-Digital Science and Education*, 4(1), 160-176. <https://doi.org/10.1007/s42438-021-00261-5>
- Alexenberg, M. (2011). *The Future of Art in a Postdigital Age: From Hellenistic to Hebraic Consciousness* (2nd ed.). Intellect Books/University of Chicago Press. <https://doi.org/10.2307/j.ctv36xvpkc>
- Andrews, I. (2013). Post-Digital Aesthetics and the Function of Process. In K. Cleland, L. Fisher & R. Harley (Eds.), *Proceedings of the 19th International Symposium of Electronic Art, ISEA2013* (pp. 256-258). Sydney, Australia.
- Barad, K. (2012). Nature’s Queer Performativity. *Kvinder, Køn & Forskning*, 1-2, 25-53. <https://doi.org/10.7146/kkf.v0i1-2.28067>
- Bartholl, A. (2014). *What are you waiting for?* [Clip art]. Tique (publication on contemporary art). Antwerp, Belgium. <https://tique.art/features/aram-bartholl/>
- Bayne, S. (2015). What’s the matter with ‘technology-enhanced learning’? *Learning, Media and Technology*, 40(1), 5-20. <https://doi.org/10.1080/17439884.2014.915851>
- Bissoli, G., Bottes, O., Perri, F., Regolini, A., & Scapin, G. (2017). TEDD experience: An innovative educational methodology explained by students. In L. Gómez Chova, A. López Martínez, & I. Candel Torres (Eds.), *ICERI2017 Proceedings* (pp. 6389-6397). IATED. <https://doi.org/10.21125/iceri.2017.1650>
- Boys, J. (2022). Exploring inequalities in social, spatial and material practices of teaching and learning in times of pandemic. *Post-Digital Science and Education*, 4, 13-32. <https://doi.org/10.1007/s42438-021-00267-z>
- Braidotti, R. (2013). Posthuman Humanities. *European Educational Research Journal*, 12(1), 1–19. <https://doi.org/10.2304/eej.2013.12.1.1>
- Bridle, J. (2011). *The New Aesthetic*. James Bridle. <https://jamesbridle.com/works/the-new-aesthetic>
- Bryant, R., & Knight D. (2019). *The anthropology of the future. New departures in anthropology*. Cambridge University Press. <https://doi.org/10.1017/9781108378277>
- Carvalho, L., Goodyear P., & Laat M. (Eds.). (2022). *Place-based spaces for networked learning*. Routledge.
- Cascone, K. (2017). The aesthetics of failure: Post-digital tendencies. *Contemporary Computer Music Journal*, 24(4), 12-18.
- Clark, A. (2003). *Natural-born cyborgs: Minds, technologies, and the future of human intelligence*. Oxford University Press.
- Cramer, F. (2013). Google.nl image search result for “digital”, 10/2013 [Clip art]. In F. Cramer, What is ‘post-digital’?. *A Peer-Reviewed Journal About Post-digital Research*, 3(1), 11-24. <https://doi.org/10.7146/aprja.v3i1.116068>
- Cramer, F. (2015). What Is ‘Post-digital’?. In D. M. Berry & M. Dieter (Eds.), *Postdigital Aesthetics: art, computation and design* (pp. 12-26). (1st ed.), Palgrave Macmillan. https://doi.org/10.1057/9781137437204_2
- Dede, Ch., Richards J., & Saxberg B. (Eds.). (2018). *Learning Engineering for Online Education: Theoretical Contexts and Design-Based Examples*. Routledge. <https://doi.org/10.4324/9781351186193>

- Dirckinck-Holmfeld, L., Hodgson, V., & McConnell, D. (Eds.). (2012). *Exploring the theory, pedagogy and practice of networked learning*. Springer Science+Business Media. <https://doi.org/10.1007/978-1-4614-0496-5>
- Duran, Zh. (1999). *Antropological structures of the imaginary*. Bombana Publications.
- Fawns, T. (2019). Postdigital Education in Design and Practice. *Postdigital Science and Education*, 1, 132–145. <https://doi.org/10.1007/s42438-018-0021-8>
- Ford, D. R. (2023). *Teaching the Actuality of Revolution. Aesthetics, Unlearning, and the Sensations of Struggle*. Iskra Books.
- Fuchs, Ch. (2023) *Digital Democracy and the Digital Public Sphere. Media, Communication and Society Volume Six*. Routledge. <https://doi.org/10.4324/9781003331087>
- Goodyear, P. (2022). Realising the good university: Social innovation, care, design justice and educational infrastructure. *Postdigital Science and Education*, 4, 33–56. <https://doi.org/10.1007/s42438-021-00253-5>
- Gourlay, L. & Oliver, M. (2018). *Engaging students in the digital university: Sociomaterial assemblages*. Routledge.
- Green, J. (2022). Designing Hybrid Spaces for Learning in Higher Education Health Contexts. *Postdigital Science and Education*, 4, 93–115. <https://doi.org/10.1007/s42438-021-00268-y>
- Harris, H. (2019). *A dreamy portrait* [Painting]. In E. L. Sarah (Ed.), Henrietta Harris and Photoshop Response. <https://emmaleighsarah.wordpress.com/2016/03/20/henrietta-harris-and-photoshop-response/>
- Herlitz, L., & Zahn, M. (2019). *Bildungstheoretische Potentiale postdigitaler Ästhetiken – Eine methodologische Annäherung* [Educational theoretical potentials of postdigital aesthetics – methodological approach]. Kulturelle Bildung Online. <https://www.kubi-online.de/artikel/bildungstheoretische-potentiale-postdigitaler-aesthetiken-methodologische-annaehderung>.
- Hickey-Moody, A. C. (2020). New materialism, ethnography, and socially engaged practice: Space-time folds and the agency of matter. *Qualitative Inquiry*, 26(7), 724–732. <https://doi.org/10.1177/1077800418810728>
- Jandric, P., & Hayes, S. (2020). Postdigital we-learn. *Studies in Philosophy and Education*, 39(3), 285-297. <https://doi.org/10.1007/s11217-020-09711-2>
- Jones, C., Ryberg, T., de Laat, M. (2015). Networked Learning. In M. Peters (Ed.), *Encyclopedia of Educational Philosophy and Theory* (pp. 1-6). Springer. https://doi.org/10.1007/978-981-287-532-7_129-1
- King James Bible*. (2017). King James Bible Online. <https://www.kingjamesbibleonline.org/> (Original work published 1769)
- Knox, J. (2019). What Does the ‘Postdigital’ Mean for education? Three critical perspectives on the digital, with implications for educational research and practice. *Post-Digital Science and Education*, 1, 357–370. <https://doi.org/10.1007/s42438-019-00045-y>
- Kolb, D. (2015). *Experiential Learning: Experience as a source of learning and development*. Pentice Hall.
- Kondratska, L., Romanovska, L., Kravchyna, T., Kozachenko, S., & Novak, M. (2023). Nomadic models of postmodern aesthetics: Soteriological choice of the teacher. *Journal of Education Culture and Society*, 14(1), 435-450. <https://doi.org/10.15503/jecs2023.1.435.450>
- Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press.
- Lefebvre, H. (2006). *Writings on cities* (E. Kofman & E. Lebas, Trans). Blackwell Publishing. (Original work published 1996)
- Müllensiefen, D., Gingras, B., Musil, J., Stewart, L. (2014). The Musicality of Non-Musicians: An Index for Assessing Musical Sophistication in the General Population. *PLoS ONE* 9(2), Article e89642. <https://doi.org/10.1371/journal.pone.0089642>
- Nordquist, J., & Laing, A. (2015). Designing spaces for a networked learning landscape. *Medical Teacher*, 37(4), 337-343. <https://doi.org/10.3109/0142159X.2014.1001349>
- Oliver, M. (2016). What is technology? In N. Rushby, & D.W. Surry (Eds.), *The Wiley handbook of learning technology* (pp. 35–57). Wiley-Blackwell.
- Pischetola, M. (2022). Teaching novice teachers to enhance learning in the hybrid university. *Postdigital Science and Education*, 4, 70–92. <https://doi.org/10.1007/s42438-021-00257-1>
- Raes, A. (2022). Exploring student and teacher experiences in hybrid learning environments: Does presence matter? *Postdigital Science and Education*, 4, 138–159. <https://doi.org/10.1007/s42438-021-00274-0>

- Reddington, S. (2022). Authenticating disability perspectives and advancing inclusive agendas that value disability identity in schools. *International Journal of Special Education*, 37(1), 15-23. <https://doi.org/10.52291/ijse.2022.37.23>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Scannell, E.D., Allen, F.C.L. (2012). The Mehrabian Achieving Tendency Scale (MATS): Reliability, validity and relationship to demographic characteristics. *Current Psychology*, 19(4), 301–311. <https://doi.org/10.1007/s12144-000-1022-8>
- Schmidt-Crawford, M., Brianza, E., & Petko, D. (2021). Self-reported technological pedagogical content knowledge (TPACK) of pre-service teachers in relation to digital technology use in lesson plans. *Computers in Human Behavior*, 115, Article 106586. <https://doi.org/10.1016/j.chb.2020.106586>
- Stucin, S. (2013, June 5). *Maiko Takeda* [Photograph]. Flickr. <https://www.flickr.com/photos/sasastucin/8900714214>
- Vallerand, R. J., Blais, M. R., Brière, N. M., & Pelletier, L. G. (1989). Construction et validation de l'Échelle de Motivation en Éducation (EME) [Construction and validation of the Educational Motivation Scale (EME)]. *Canadian Journal of Behavioural Science*, 21, 323-349.
- van der Tuin, I. & Nocek, A. J. (2019). New concepts for materialism. *Philosophy Today*, 63(4), 815-822. <https://doi.org/10.5840/philtoday2019634294>
- Wardak, D., Vallis, C., & Bryant, P. (2022). #OurPlace2020: Blurring Boundaries of Learning Spaces. *Postdigital Science and Education*, 4, 116–137. <https://doi.org/10.1007/s42438-021-00264-2>
- Wilson, S. A. (2022). Musical Lens on Spatial Representations of Form to Support Designers and Teachers Using Hybrid Learning Spaces. *Postdigital Science and Education*, 4, 1-24. <https://doi.org/10.1007/s42438-021-00262-4>