Art, Technology, Education: Synergy of Modes, Means, Tools of Communication

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Abstract: The purpose of this article is to highlight the fact that the fertile learning circle of creative production/cultivation and technology in the organization and implementation of school projects by secondary schools for students aged 12–18, is aimed at the management of digital content, not just by using ready-made applications, but also by emphasizing the "we" in the use of technology. This entails focusing on a pedagogical notion of the efficacy of art, and also expanding the concept of the artwork by investigating it as a participatory practice, studying the relations between multiple nodes, the dynamic potentials and practices of composition in the media. Artwork as a rhizome, complex, pluralistic emerges as an open-ended assemblage and reorients the way of teaching. The dynamic field 'Art and Technology' as a field of synthesis, convergence, a modality of happening, and as a means of acquiring the skills and extensive knowledge necessary to bring about change, is based on technological, experimental, interactive and procedural technologies that involve the actions and/or influences and input of multiple persons as well as the machines. A new reality is built, encoded, recorded, and students are actively involved.

Keywords: art; education; media technologies

1. Introduction

New techniques and applications in the field of 'Multimedia Technology', such as mobile media technologies and software solutions as social media applications, reflect the fact that the concept of creative production has always been a multimodal and multisensory human process. A learning environment needs to be multisensory, not so much in the sense that it is simply rich in stimuli, but also that it has different sensory values so that each learner can tune into his or her own personal reception characteristics [1] (p. 135). Selection and usage of programs, devices, cutting-edge technologies are creatively aimed at the collaborative production of work by students, confirming what Heidegger highlights, that "the essence of technology lies in enframing" [2] (p. 331), with special regard to their aesthetic value and thus gaining political value [3] (pp. 31–48). The production process continually contains critical review, reconstruction and co-construction of new insights. A creative production from a cultural perspective, particularly in school projects, is shaped by the demands of research and development processes. The aim is to gain a deeper understanding of 'something' with processes of research and experimentation. The above meaningful tasks in compulsory education for school students aged 12–18 years can be successfully accomplished in a technology equipped classroom, with safe access to unlimited and uncensored Internet.

Art and technology are powers to be; they are forms of seeing and speaking, and open up possibilities of experience [4]. Art does not put things in rigid categories and might therefore constitute a problem where excessive certainty [5] and cultural simplification is concerned. Examining art in order for students to gain a deeper insight into a situation, an idea, a thought, a problem, creates an intense relationship with the things, as many artists transgress representational patterns and traditional notions expecting a more radical or effective approach. Thus, the artists' task is, not only to connect,

but also break down the constraints created by closed-off disciplines, preconceived categories and predetermined ends. This type of research/approach can be integrated into the learning process. The image is the rhizome, something which expands in all directions, with openings towards other directions and places. According to Deleuze and Guattari, there is neither imitation nor resemblance, a rhizome is a veritable becoming [6] (p. 10).

Artists are interested in the "poetics of materials", and the artist's way is often impressive and inspiring. For example, in the late nineteenth century, painters realized that a subject shown from two different viewpoints in the same painting appeared more complete, immediate, and honest. Artists turn nothings into 'somethings', and in terms of dedication to the cause and seriousness of intent, art can be used as a subject of teaching, as a kind of revealing, and especially as a visible practice allying knowledge and the power to act. In the digital age, students are inundated with new 'stuff' (procedures and consequences of a new, and global agenda set by mass media) and sometimes the glut can leave them feeling paralyzed and confused, but the aim of art is to free their minds. Art as a catalyst becomes the ideal medium for thinking. The play between the visible and the invisible, focusing on conception rather than perception, the technical background that enables artists to experiment with images and with reality, exaggeration of forms, have set in motion a visual imagery revealing mutual relations that are inherent in things, but also 'extending' the physical world, looking at one thing and seeing another. Students want to understand the context and find the point. Art provides extensive knowledge (social and cultural practice). Bradford Paley, who created the iconic relationships among scientific paradigms, is trying to find and reveal beauty in the world. Artistic and aesthetic practices reinforce their imaginative and visionary transformation for the world. Students' research and artistic focus gradually shift from the personal to the social. An artistic dialogue multiplies perspectives or visions of possibilities and actions/reactions. It helps them to understand correlations (i.e., symmetry in art, symmetry in physics), causes (i.e., social conventions) and results (i.e., students could be able to see all perspectives of a scene at once, three dimensions—length, depth, width—and an extra spatial dimension).

Students examine techniques (i.e., explore the relationship between color, form and light), practices (as an artist for whom color is as much the subject as the subject matter itself), stylistic developments, cultural contexts—using a large number of criteria such as abstraction, allegory, ambiguity, beauty, boundaries (i.e., how art is separated from the world), themes, style and stylishness, motif (representational or abstract) and symbols—that help them to understand the nature of artworks, and keep them on the path of truth and beauty. It is a fact that a substantial body of artworks, with the help of technology, could be studied and researched in detail as the composition—the artwork as an arrangement of elements—and the use of art-making tools can be perceived more easily because of technological means. Students study mixed media and multimedia as a form of display that provides a conduit for expression, combining materials and media for striking effects. This process provides tools/methods to access the content that resides on sites with interfaces that feature great variety and mixed levels of analyses.

Students can examine artists from very different traditions and eras. This possibility can function in multiple ways by means of connections and heterogeneity, a multiplicity that is not given but constructed. It is very interesting that students find patterns, shapes, sounds and narratives that suggest deep continuity. They understand a vocabulary of images and techniques, find time for reflection, and make a value judgement. These are ways of starting to transform their expectations of the experience of art practices. Digital technology in the arts has been used to transform viewers into participants. They can create digital metadata about artworks, as an effort to "synchronize" art practices with the flow of time, and rework artworks for their needs in a learning space. Thus, individual and small group projects and activities are interspersed. This is a considerable technological pedagogical move. Similarly, artists, who work with the new media, redefine, reconstitute and rearrange space. They create a new space related to the 'present' and simultaneously detached from the present, that offers possibilities towards rethinking learning and teaching. This attitude reinforces the

awareness of students regarding new possibilities in creative and artistic practices. Students trace the basic constructional elements, variants such as space (public/private), participants, activities, objects, manipulations (e.g., a controlled space), techniques, and redefine the dynamics between the analog and digital world.

Students acquire the necessary know-how, that is to say certain techniques, such as narrative abilities, creative writing, design knowledge, software knowledge—depending on the subject they choose to work on and also the way they prefer to present and/or publish their work. By creating new material, they start to become skillful, independent, divergently- and creatively-thinking persons. Students try to become 'artists'—which primarily means knowledge and good contact with reality—focusing on the essentials [7] (pp. 59–72), the necessary "building blocks", such as an emphasis on time and space, and the relationships between them that have emerged. Accordingly, students have to study and understand the manner in which people engage and interact with each other, and study/understand the nature of spaces (real, virtual, conceptual) [8] (pp. 93–116).

The current generation of students demonstrates the strong desire to communicate (70% of the world's youth are online) [9], trying to discover new forms of expression, without adhering to specific practices, conventions and procedures that do not support the potential to utilize technology in making a difference. Students have the ability to choose what they want to read or comment on, and whether these relate to the teaching subjects or simply piques their personal interest. The collection of different media such as text, images and sounds can become a fruitful way of displaying, acquiring, browsing and sharing knowledge. Students communicate in their own voice, extend the limits of action and acquisition of knowledge, sharing content to an audience, unpredictably large and varied, thus interacting and accepting the unpredictable, the unexpected, the different [10] (pp. 47–104). This is invaluable. School education serves as an umbrella that incorporates its educationally constructed, structured, hierarchical and formal expressions, but, above all, through the teaching of art, this education is received in the whole breadth and weave of human life [11], and thus most often informally, not always in a structured manner, but almost always in an entertaining one.

2. Participatory and Subject-Centered Approaches

Certain types of art, especially those that deal with time, space, and especially through the digital media (storytelling for interactive digital media, interactive storytelling in games) seem to have dictated the urgent need to involve the sensory experience of the viewer, personality traits and expectations, detached from anything deemed outmoded or depressive [12] (pp. 89–161).

Artworks that focus on the shared use of digital technology—as a medium of creation of contemporary art—call for a collaborative participation of the community members involved, and sometimes use the 'wisdom of the crowd' as a methodology [13–15]. It is important to consider that digital arts are all part of human creation and technological abilities, research and involving visualization, language, human behavior, habits, social and cultural implications, challenges and values. Consequently, students realize how unfounded the approach to culture as a field of mystical worship is. This field of convergence—art and technology also as a field of effective engagement—demonstrates the necessity to guide participants/students who are involved in creation [16], on how to effectively use their individual multisensory experiences to transform various applications, projects, and in general, to transform the common field of multimedia.

With the help of technology, students could follow an evolutionary approach to artists' works in the disciplines of painting, film, culture and performance studies, folk art—they can find examples from a broad range of art practices—and then focus on "the most impressive works" that they themselves choose. Then, students can exchange files via Google Drive/OneDrive and PrimaryPad, write a brief identification of a period in which the artist has worked and created, and this text would indicate the artistic trends of the time and the ideologies behind since their establishment. Students examine the motivation of artists to move beyond the stagnant forms and bring about a rigorous revision of the artistic form. They can include various collections and create an interrelated network of thematic

issues, as well as formal deviations. Students with ThingLink create an interactive collage based on a central image (for example, linked to the artist's website), adding music, for example, experimenting with Audacity, repeating some musical gestures, possibly visualizing, analyzing and presenting electroacoustic music (acousmographe) and all of the material is published. Students become just the providers of possible artworks that an audience then participates in, or interacts with or even completes.

Many of the students' projects in school aim to show how the multiple layers of representation (written texts, visualization of messages, even orality as a performance that relies on all of the senses) disclose not only the simultaneous presence of contemporary sources, but also an unending and infinite palimpsest ("again scraped") that resists being reduced to a restrictive interpretation and to a mere mention of specific place, space and implying specific rules of conduct. It also resists any closure (of meaning and therefore detached from developments, deadened), similar to what Lessig has demonstrated, how a freer copyright culture can coexist with profitability in what he has called the hybrid economy, and that the properties of bits have amplified the fecundity of culture [17].

Digital media technologies are tools with which to do things, and representations of variable issues and matters draw their power from their visibility [18] (pp. 251–260). Most of us will be able to "read" these representations/ symbols and may interact with other ways that their makers have predicted. The sign, according to Peirce, is in relation with the objects. Every sign is conventional, as a sign necessarily involves a habit in one's mind [19]. Every sign is composed of three distinct and always intertwined elements: (a) the symbolic sign (symbolicity), (b) the numerical modality/iconic sign (iconicity) and (c) the specific combinations of symbols and measurements (indexicality). The distinction between icon, index and symbol is based on a comparison of the sign or the representamen and the object referred to, and indexicality refers to an existing relation between two objects.

This universal semiotic grammar is a functioning theoretical background consistent with the data, and implies a working model of a codification. Students learn about problems through analyzing context, adjust the components, evaluate the outcomes. They consider the degree to which each of the "building blocks" is more optimal than others. Additionally, they try to be innovative and disrupt conventional models of design-thinking process, especially when individual work habits are so variable (writing a draft, identifying key issues, collecting photos or producing a prototype). As Kelty highlights, "we now occupy a world in which our very ability to become free depends on our ability to design (freedom) into our technologies—and yet we don't have a theory, positive or normative, that would guide us in this endeavor" [20] (p. 218).

Certainly, the creative process is not a predefined series of orderly steps. Additionally, to talk about the subject of perception, we are bound by the primal and open affinities between the sensible and the reasonable, through which our relationship with the world is built. Looking at, listening to, or interacting with an artwork is a creative process, and the awareness of the limits and the firm grasp of reality are milestones of utmost importance.

Art teachers may systematically examine the variable dimensions (space, time, culture), the multifaceted forms of artistic creations and direct their students to new creative form—to examine with the students unclaimed territories—by forging a rift between a sterile knowledge about the world (ways of being seen) and the unexpectedly urgent requirement to experiment with the new, the subversive, or unconventional. For example, learners focus on Cèzanne's ideas that an image can have an overall design, into which all the individual elements may fit and relate to one another, also Seurat's ideas about color and subject, and additionally, they can explore Van Gogh's stark contrasts.

The crucial point is to examine the quality of engagement with artworks, the level of know-how, technical competence, motivation and interactions. However, characteristics of formal education include constrained practices and actions, strict organizational features, standardized means, and time specifications. As a result, it is important to consider that, according to J. L. Borges, there are three tenses and they all refer to the present [21]. The present is fragile and fleeting, because it immediately becomes the past. People perceive the present and simultaneously the present has vanished. Then, there is the past of the present and it refers to memory, so people become aware of what they were not

aware of before trying to recall the past [22] (pp. 317–333). The past surprises us with its timeliness. Finally, there is the present of the future, which is whatever people hope for, expect and fear.

Students in projects closely related to what cultural communication means—whether they choose thematic or chronologically linear analysis—engage the three tenses that refer to the present, study correlations, finding common ground, involve subjects, objects, terms, and weave threads to understand variables tropes. Moreover, they examine images, sounds, motives and narratives, in order to indicate which stances/attitudes of a cultural agenda have been consolidated or in what way they have been transformed. The research is considered in relation to the goal, which is to study the complexities that have emerged, starting from a relatively specific base of concepts, strategies and tools/techniques in a historical moment, and engage in the analysis of the complex dynamics developed around the production of the new, in the technology-mediated learning activities.

Concerning arts, there has been a shift in the range of methodological approaches to creating new artistic work and new ways of seeing the world. For example, Bruce Wands records ambient sounds, chooses those that are most melodious, then superposes actual music on them. He also works on representing geometrical shapes, using 3D software to create abstract images that convey a spiritual content [23]. A great number of artists continue to experiment and use new media, such as Christopher Langton, Thomas Ray, Christa Sommerer and Laurent Mignonneau, to mention a few. Sommerer and Mignonneau focused on developing new forms of human–machine interaction and have pursued innovative paths in interface design [24]. According to Miah, there are specific indicators of convergent practice in how science and arts are produced. One key aspect of this from the scientific disciplines is the rise of public engagement work [25]. Art and technology shape users' practices and larger social expectations about what the artifacts can do, what they are for, and what people might actually do with them. The development of new media, the existence of more flexible systems of communication, tend to facilitate broader use, support decentralized knowledge production and reception [26]. However, students have to seek, refer/examine, and discuss instances where a private, personal or group interest dominates knowledge production and/or distribution [27–29]. That leads to a dialogue with anything fresh and new, and a questioning about other things alleged as new and innovative. Similarly, students who are inspired by interesting examples/ideas that come from observations about art and its practices (for example a comparison between Picasso's *Ma Jolie* and Noll's creation Gaussian Quadratic [25,30], are motivated and/or activated to look for new through a fruitful process.

Students create text on screen, suggest the nonlinearity of hypertext, and present information-dense material, both textual and graphical. A timeline with a sequence of events (for example, TimeRime) will help an in-depth understanding of priority themes. The use of educational tools within the school, such as the digital technological tool VoiceThread (or comments only with Arc/Flipgrid), facilitate the expression of views on specific material (images, videos or text), promote discussion and allow the teacher to present a topic by visualizing processes that are related to their subject matter, to involve students in discussions on subjects they want, to motivate them [31] (pp. 332–338). These practices and technologies are compared and related to more traditional practices such as linguistic and writing exercises, drawing and math problems solving. For example, a result could be the creation of interactive posters, of glogs with the introduction of text, images, photos, audio (Glogster is a cloud-based platform that takes an important role in achieving creative learning through interaction and creation of presentations limited only by the designer's imagination utilizing the possibilities provided by the platform).

It is difficult for teachers to outline their students' possible influences received from any ideological core during their apprenticeship. However, educators often confront the students' urge to purge anything that has become habit and draws them to the past, while at the same time, seeking guidance and inspiration. Educators' goal can be students understanding that they are simultaneously conservators of opinions, and those who ask and wonder about previous concepts and problems by rejecting and resolving.

An illustrative example is the method of analyzing artworks that "drives" the students. It prepares them for that kind of thinking where they are just constantly on top of things, asking questions. Art constantly poses questions, without a specific solution or answer. There is no one predominant answer. Having students pose questions is equally interesting and beneficial to themselves. Questions or dilemmas are posed, which, depending on how they will be posed, can be answered in a variety of ways [32]. Students want to learn how artists make powerful images and content, how they plan, research, produce. What it is clear to them, is that artists provide perspectives on ways of understanding, conceptualizing and interpreting events, situations, occurrences. Detecting scale issues, capturing size, meeting the need for symmetry, rhythm, proportion, use of colors, objects, layout, syntax, and visual elements through proximity, similarity, continuity, apparent movement, insistence on affinity or accentuation of deviations, are identified and studied thoroughly [33].

Students, in-depth learning supporters, are experimenting, tracing basic parameters: historical, cultural, world-viewing, ontological, understanding the importance of a delineated framework, advanced presentation and interaction capabilities with individuals-users, are involved in creating educational scenarios, formulation, presentation, adding digital originality steps [34]. Digital media technologies are transforming formal educational practices that extend across space and time, and reinforcing multiliteracies through design activities [35] (pp. 27–47). Designing, (re)designing, the digital creations of the students, such as creating videos, comics, various presentations of topics (using for example the presentation tools Prezi, Keynote or exporting from Google slides and uploading to Slideshare) are documented and will probably be enriched and changed in future [36]. As an attempt for a more comprehensive presentation, with extensive annotations through the creation of websites with the classroom (Weebly for Education) the discussion will lead to additional references and annotations, as it also proves to be a process beneficial for the creation of written texts.

Students engage in creative writing as a practice that they use to critically investigate ideas and events. It is a practice that works exceptionally well [37] (pp. 49–62), both as a starting tactic and developmentally, due to connections, contrasts and comparisons [38] (pp. 278–290), [39] (pp. 1–16), [40] (pp. 46–56) and as an artistic expression by using all known writing techniques [41] (pp. 790–807) and experimentations with new ones. The reporting and presentation of works through a web page enables re-reading and is an easy-to-use transmission vehicle of the overall worldview of narratives, experiences, events.

Modern rich digital media are composed of text, graphics, image, audio, animation, other media objects, and provide a rich form of expression and interaction. Regarding education, the great goal is to transfer the new effective practices (the constituent elements, their functions and the "montage"), and bring new multimodal and multimedia literacy into the classroom. The most interesting thing is the "montage" between real spaces, objects and sounds with digitally produced media.

3. Followed Process

Students discover that there are no restrictions to their access to the opinion sphere (as mentioned in the introduction, an unlimited and uncensored access to the Internet is demanded as a precondition), and it has become clear that full access to new communication technologies implies more than network connectivity, hardware availability, and other technical considerations, variable cognitive skills, which are more important, such as the ability to process content, to intervene and expand manners of interpretation. Students have to study the underlying causes concerning communication opportunities across a wide range of levels (e.g., interpersonal, group, organizational, mass) that have received renewed attention because of the Internet's potential. Concern about a widening knowledge gap is not unique to online media, however, students have to analyze the complex dynamics developed around the depictions of different concepts and problems. These skills are needed to help adapt to a rapidly changing information environment. New communication standards and new applications are adopted by an increasing number of users, and intensify the compound annual growth rate (CAGR) of traffic in the communication networks, which has been around 40% per year since the turn of the

century. New applications, such as the emerging 5G technology, will enhance the naturalness of the communication environments delivered by the Internet [42].

In order to cultivate these skills, learning process have to involve artworks that will be examined, and accordingly, this requires a double process that can be achieved by investigating the artists' ways, in particular, studying the signs, a semiotic approach according to Peirce, symbols, subjects of discourse and subjects of desire, the imaginary, the symbolic and the real, the affective effects, the changes over time, according to Borges. Therefore, the first step is to examine each part of the artwork and "identify" it, follow the process in which the artwork is clearly demarcated [43], but make a distinction between representation and signification. At the beginning, there is an artwork as a subject of teaching and probably a headline which fires learners' imagination to come up with ideas. As an exercise, they can read or write around the artwork. The composition of texts highlights what is being perceived by the students, but also what exactly is being commented on and in a text format on different topics. That often leads to study tradition as a reference frame, mapping and studying similar issues in the past, focusing on attitudes, values and impact. Tradition refers to the exigency for understanding the past and one's heritage in a temporal context, in an atemporal and mythical context.

It is not for theoretical but primarily methodological reasons that students could trace the basic constructional elements, variants such as space, time, participants, practices and activities (culture). The way information is presented on the screen plays important role in how this information is perceived and processed by the users. The most interesting is that the information space will grow by including user's ideas and findings. Students have learned to combine different types of information and sharing information about digital/physical resources, improving the user experience when using the resources or upon finding them.

The second step concerns identifying the role of the media as artworks, which could be evaluated on the degree to which these artworks supply a "fertile field" for intellectual fermentation. The Internet has become a venue for exchange views and thoughts, thus users/learners create a network with like-minded individuals, or they can collaborate in a broader context, and it is a circulating network. Art work is circulated in a variety of contexts. It does not merely manifest itself as a coherent unit encoded with a singular end goal, but also as a circulating network, as a process in which indifferent aspects come together [44] (pp. 203–204). This model suggests that emphasis on the pedagogical notion of artworks entails art analysis, ideas, thoughts and reflections, and how it can be expanded in a circulating network. This methodology is based on understanding, not the work of art as a coherent category, but how, in the network, the work emerges as an open-ended assemblage [45–49].

The extension of this model by the teacher, supports the students' experimental tendencies with an added emphasis on complexity, historical context, analytical depth, critique and interpretation. Medium specificity is keeping the controlling brain mechanisms focused on physical reality, but also on screen and on the "imprinted" reality by controlling forms of perceptual knowledge (shapes, directions, contrasts, opposing colors, symbols, musical gestures, songs).

4. Relearn How to Interact Meaningfully in Digital World and Real Life

Experimentation with social media and the invention of new forms of communication (the use of avatars) highlight the strong necessity for communication. However, the fragmentary structure of the media speech and the variable paths of a kind of "translation" as it relates to events, situations and interpretations, can be challenging to users/students and can be chaotic for how they navigate through complex content. As far as technology is concerned, there is the generalization of the new as a manner of experience, as new things are constantly suggested, such as new modes of interaction (infrastructures for mobile and online communication).

Through wikispaces, students comment, chat, build Internet newspapers, or post their own annotations on Padlet walls. These "walls" can be integrated into websites. They attempt to collaborate in a writing project using PrimaryPad/TitanPad. Freeing the "subconscious flow" of writing, more authentic, original thoughts, memory paths are investigated—as well as a similar display of these

memories particularly in broader entertainment areas [50]—and emotions are triggered [51]. Students create a questionnaire which they will distribute: its data the students will process and the content and their conclusions will be published on SlideShare and shared. Within the school the teacher also utilizes their involvement through social networks from their home or outside school, i.e., they manage knowledge [52] (pp. 65–80), attitudes, opinions, they have acquired outside the school, and which influence the learning process and generally empower the process of understanding [53].

There is a feedback circle between the digital world and the analog with which one informs the other in a constant, strong relationship. The use of online applications and mobile media technologies has the prestige of being the historically unavoidable, but the ultimate goal is to involve a conscious choice of medium, because specific forms of interaction assume specific forms of sharedness and shape specific forms of groups [54].

Students focus on technology as a tool and this cannot be unnecessarily construed as a problem, but rather as a chance to develop new methods of their own, to think about their beliefs—the world we live in does not conform to what appears [55]—their attitudes, values, and try to recognize and rebel against supposedly imposed demands [56] (p. 19). Technology is not chosen for us to behave as heteronomous beings following in the end commands and behaviors that are indicated to us, but it is chosen to demolish invisible walls.

5. Conclusions

The needs of the new digital age can change the learning and teaching process for students and teachers. However, it is crucial to underline that it is not the technological texture and structure of the Internet that leads to the level of simple and barren accumulation of information, and sometimes even incorrect or false. It is, on the contrary, the simplistic way in which the contemporary individual enters the world of the Internet and lives within it, as if it is a "Universe" whose purpose is not the facilitation of human creation, but its total mutation so as to "sail" in a "sea" of intellectually "digestible" fantasies.

There can be neither sloppiness nor oversimplification within the classroom. The Internet is increasingly used in the educational process by contributing to students' digital literacy. The new digital and technological media create new opportunities: students working alongside the writings of other writers are transformed into researchers/creators and are released from the burden of faith in the original text, since ultimately no text is intact but always bound to the "spell" of another. It is a viable practice through the constant relationship between literary creation and student texts, and as a form of reconstruction, it records the dynamics of its language and its spirit.

Teachers turn their attention to what exactly students choose to interact with (every piece of art students' have ever wanted to study), without leaving intact the ontological status of the work, i.e., sense is made at the point and time of its perception. They understand that imagination is crucial to the very working of human thought. Teachers provide ways through studying artworks (thematize the gap between art and reality) to drive their students think realistically about the possibilities and challenges, to break taboos and extend boundaries of the acceptable.

The process of knowledge production is 'two-sided', due to the construction and demarcation of the work in relation to today and how it forms and delimits today. The positive long-term results for individuals from technology-driven interaction are revealed as a continuous and creative process with artworks and the challenges that are encountered in the design of user-driven technology applications in a proper and adequate school environment. Artworks can be considered in terms of duration, renewal of their political and social context, taking into consideration the need of students' participation in the way content and ideas are circulated and transformed. The field of creation is not a repetition or reproduction of the original, but a fusion of critical theory, interpretation theory, and can serve as a form of expression and report. Students create works that could function fruitfully, through social and technology interaction, between school communities and new digital media, and these works are the results of various processes of decisions, choices and selections.

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