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**VISUAL PERCEPTION OF ARTEFACT: SIGNIFICANCE OF
MUSEUM IN BIOETHICAL EDUCATION**

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Abstract

A combination of several specific characteristics of modern times makes bioethical education necessary. First, visual presentation of information largely replaced the verbal one. Secondly, life itself became a product of technology, so it turned into an artefact. Thirdly, the pace of innovation reveals how frail the intellectual traditions are. Fourth, the innovations of convergent and biomedical technologies create new risks. And, finally, existence in the environment of new risks requires a new degree of responsibility for choice made by an individual. In this case, an individual must make both bodily and mental choice again and again. Bioethics is placed at the intersection of some trends: it protects the individuality from the arbitrariness of a biomedical operation, assess the new risks, retains the moral positions of philosophical traditions for determining the permissible limits of intervention of the artificial into the natural. From this perspective, the work is aimed to find an answer to the question, is it possible to adapt theories of perception of visual information to bioethical education in principle. For this purpose, the role of a museum in forming an attitude to unique artefacts is considered. By the example of the museum, an optimal combination of methods of psychological influence for developing the perception of visual information is shown. Based on this, it was concluded that the museum, which meets the above-mentioned requirements, is suitable for bioethical education.

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Keywords: Bioethics, bioethical symbolism, education, bioethical education, perception, visual perception.



1. Introduction

Bioethics as a form of modern culture emphasizes the right of an individual to be what one wants to be (Mescheryakova, 2011; Melik-Gaykazyan & Mescheryakova, 2015) and the duty of society to provide an individual with this opportunity (Gorbuleva et al., 2016; Tarasenko et al., 2016b). Bioethical symbolism spreads itself across all fields of knowledge, enters into life, forms new grounds for social altruism (Ardashkin et al., 2015, 2016), and penetrates into the museum business. An example is Kelvingrove Art Gallery and Museum in Glasgow, because anyone finds there what one wants. In general, a quick review of modern museums creates the impression that they are aimed at people with different thesaurus and goals. This is supported by widespread introduction of interactive technologies in the museum environment. The beginning of this trend was initiated by creation and distribution of virtual versions of Louvre and Uffizi Gallery, in which visitor gained an opportunity to modify exposure. Usage of interactive technologies can now be found in almost all the major museums. But at the same time, an exhibition, which represents digitized paintings of famous artists that can be partly animated will not be interactive. Interactivity does not supposed to be visitor's rework of the painting of an artist, it touches the perception of a visitor. The painting itself remains unchanged, and a visitor has one's own interpretation of artefacts of art. Thus, an artist retains the right to remain himself, a visitor obtains the right to perceive as one wants. This right to remain oneself is important in "doctor-patient" and "researcher-participant" communication, which refers to bioethics again and raises the question on the need for bioethical education.

Returning to the example given above, it is important to say that in Kelvingrove a child can perceive artefacts of art as one wants, and their "weight" does not weigh on him. Thus, Kelvingrove is valuable because it gives an opportunity to people with different preferences and thesaurus to gain aesthetic pleasure and develops a taste as a choice of what will be enjoyable. Any choice will have a positive effect when it is about the pieces of special cultural value. One of the basic ideas of bioethics is that a person must responsibly make a choice of body and mind (Mescheryakova et al., 2016). Modern biomedicine and convergent technologies (Roco & Bainbridge, 2003; Evdokimov et al., 2016a) allow a person to choose one's corporeality and correct one's mentality. Nowadays, technologies have been created that allow parents to choose corporeality and mentality of their child. Therefore, it is very important that biomedical technologies are used in order to achieve a norm, instead of going beyond the norm. As biotechnologies are rapidly evolving, bioethical education becomes particularly important. Bioethics requires such education, which already belongs to the sphere of pedagogical science. But if doctors always consider the achievement of a lost norm as a goal, then pedagogy always seeks to exceed a norm. Which in its turn, refers to the sphere of needs. In the modern consumer society, the task of forming one's needs becomes urgent. As technology creates more and more visual products, it becomes important how to direct this potential in the right direction. The visual representation of information has not only an entertaining potential, but it can also be a powerful tool, which makes it important to discover the optimal proportion in applying the different types of visual teaching tools in connection with peculiarities of individual perception of visual information. This is reflected in the role of museums.

2. Problem Statement

In pedagogical science, the limits of approaches' applicability are usually not specified, which creates significant difficulties in establishing, for example, their axiological boundaries in modeling bioethical education which combines methods, ways and technologies developed within the various theories of education (Rogotneva et al., 2015; Tarasenko et al., 2016a). Staying within these limits, it is possible to combine the methodical techniques offered by various approaches so that they are not an eclectic set, but a strictly calculated and thoughtful complex. It is the combination of different concepts that maximizes efficiency and ensures the comfort of education, since any methodical technique is effective only when it corresponds to specific goals of education and characteristics of perception of educated ones.

3. Research Questions

In connection with the problem stated, the following questions emerged:

1. Is there a way to define the limits of applicability of different ways of visualizing information in conditions when "sorting" the audience according to the specifics of individual perception is not allowed?
2. Is it possible to find out in which ways bioethics' symbolism manifests itself in the structure and activities of the modern museum, namely, in the interactive practices of museum business?

Solving these issues will allow achieving the research goal of the work.

4. Purpose of the Study

The aim of the work is to discover the possibility of ordering the theories of perception of visual information for bioethical education.

5. Research Methods

The conceptual basis for conducting semiotic diagnostics of limits of applicability of various approaches of perception of visual information will be the model of information process stages that represents the spectrum of impact of these stages on a person and the anthropological perceptions of these influences. The model is developed by Irina V. Melik-Gaykazyan (Melik-Gaykazyan et al., 2016; Evdokimov et al., 2016b; Melik-Gaykazyan, Tarasenko et al., 2017) within the information-synergetic approach closely related to the system approach in the Russian tradition (Melik-Gaykazyan, 2010). The model allows one to present the trajectories of effects of normative, verbal, prognostic, critical, adaptive and compensatory functions. It becomes the key to the ordering of psychological theories in the spectrum of their understanding of human perceptions' essence.

In addition, within the information-synergetic approach, perception is understood as an information process or, more accurately, one of the stages of the information process. The process of perception acts as a reception of selecting action algorithms to choose the method of a further action. In other words, the process of reception becomes the stage of information transmission in a diachronic and synchronous mode. The material for finding the answer to the questions posed is the analysis of

museum's activities. This is due to three reasons: a museum visually presents information; it does not choose recipients; as an institution of culture, it is transformed according to sociocultural transformations and therefore should focus on a new style of perception of visual information.

The relevance of this model to the problem being solved and the chosen example is provided by the fact that on its basis, the turn in philosophy of education (Ardashkin, 2015) is discovered - the memory-turn (Melik-Gaykazyan, Gorbuleva et al., 2017), which connects the necessity of bioethical education and the frailty of intellectual traditions, manifested by bioethics.

6. Findings

In psychology the limits of applicability are always indicated, and the conceptual definition of a person and his psyche becomes the beginning of their indication. When the combination of different views of similar conceptual definitions occurs, something unique emerges. For example, symbol-drama (Friedrichs-Dachale et al., 2016), combining the concepts of classical psychoanalysis, the theory of archetypes by Karl-Gustav Jung, children's play therapy, gestalt therapy, psychotherapeutic conversation by Carl Rogers, and some strategies for behavioral therapy by Joseph Volpe. Without pretending to be so unique, the author will attempt to clarify the limits of applicability of various ways of visualizing information for bioethical education when "sorting" the audience according to specifics of individual perception is not allowed. As a ground confirming the combination of different approaches without traumatic impacts is acceptable in principle, the author will turn to experience of Kelvingrove Art Gallery and Museum in Glasgow.

Precisely in Kelvingrove museum, cooperation of various approaches can be observed, which is not only possible, but also effective. Kelvingrove Museum stands out among museums of the world not so much with its exhibits and architecture as with implementation of original solutions of its employees related to arrangement of exhibits aimed at the full disclosure of their cognitive potential. The author can assume that it is existing the world-famous Glasgow School of Art that initiated the creation of the concept of the modern museum as a design project, which goal was to create attractive conditions for family recreation. At the same time, the organization of museum expositions reveals the cooperation of various psychological approaches, which demonstrates not only the fundamental possibility of their combinations, but also the effectiveness of their integration targeted at bioethical education.

The exhibits in Kelvingrove Museum are arranged according to thematic groups, which allows them to show up from an unexpected side and to provide an additional semantic load to the whole exposition. Each theme is very interesting and relevant, for example, the museum exposition begins and ends with the "Scottish identity in art" theme. This emphasizes the need to preserve one's cultural identity.

The museum is visited by the people with different perception. Therefore, for the effective mastering of knowledge, it is necessary to use the whole possible range of influences. Traditionally, the typology of human's representative systems corresponds to the leading modality: visual, auditory, kinesthetic, etc., according to human sensory analyzers (Buckner et al., 1987; Thyer & Pignotti, 2016). Also, a discreet (digital) representative system based on analytical perception is distinguished. In Kelvingrove Museum, this typology can be traced in the methods used in various halls. So, in the French Gallery, all original ways of presenting the exposition objects are aimed at visual perception; in the Dutch

Gallery - at development of imagination and thinking; in the Glasgow Boys Gallery – at the development of tactile and spatial sensations. Perception is heterogeneous, but holistic. Therefore, a human's representative system is sometimes called by the three most expressed channels of perception, the simultaneous impact on which gives maximum effectiveness. This idea was reflected at the Bees gallery, where one can listen to birds singing and fit a particular song for a particular bird or try on bird's legs, beaks and eyes. Here the several spheres of perception are affected: in addition to visual information, auditory and kinesthetic information is added. The different ways of perception are affected as a whole, which promotes better learning, memorizing and understanding information. In addition, games at the Bees gallery teach a visitor to appreciate life in all its manifestations, not dividing everything alive into "cute" and "ugly". So, on the one hand, one can observe at the galleries a clear separation of spheres of cognitive activity, at which games and various techniques improving perception are aimed. On the other hand, often different areas of cognitive activity can be involved in the same room. This combination promotes bioethical education.

An important moment in arrangement of museum exposition is the orientation to a wide spectrum of ages, each of which has specific characteristics of perception. In accordance with age psychology, for visitors under five years, a special gallery called Mini Museum was created. It is divided into thematic zones: Mini Museum Features, where the facial features are represented, Mini Museum Faces, where faces and muzzles of animals are located; Mini Museum Feet is dedicated to feet and paws, Mini Museum Shoes with simple and unusual shoes. Such approach is undoubtedly reasoned by the specifics of development and perception of children. At the preschool age, children perceive and absorb information arranged as images better, they have sophisticated imagination and they experience everything imagined as real in the game, thus gaining an experience. Despite the fact that Mini Museum is intended for visitors of younger age, adults also find a lot of interesting things here.

It is obvious that various methodical techniques belonging to different directions are used in this Museum, which contributes to increasing efficiency with respect to bioethical education of the recipient. However, for the fruitful combination of methodical methods of visualization, it is necessary to determine the limits of effectiveness of psychological approaches to modeling perception by justification of methodological goals, not by the type of personality. The relevance and acceptability of this combination can be shown by referring to experience of Kelvingrove Museum. Let us consider separate approaches and limits of their applicability by the examples of exposure arrangement.

Cognitive psychology emphasizes the active nature of perception, associated with processes of categorization and making an intellectual decision. The given approach is implemented at Kelvingrove Museum in paintings that can be perceived by touch: there are several holes under the exhibit that allows one to touch the different types of materials depicted at the painting.

One of the primary concepts of Gestalt psychology is established gestalt, which is always an integral, complete structure, with clearly defined contours. The contour, featured by the degree of sharpness and closed or nonclosed outlines, is the basis of Gestalt. An example of this approach implementation in Kelvingrove is a puzzle arranged as a prism with portraits of Vincent van Gogh paintings, where each portrait is divided into several parts, rotating which one can combine the parts of

the characters' faces from different pictures. Exactly from this point of view, one can comprehend why people eventually combine the parts of a face into a portrait without errors.

Another aspect of Gestalt psychology, related to the human's tendency to complete gestalt, was reflected at the Dutch Gallery. There are paintings, which characters' thoughts a visitor may suggest and write it using the special electronic scoreboards hanging by the painting. Here the author is talking about creating a holistic image of the painting, because it is the thoughts of characters that allows one to complete the perception. On the other hand, it is easy to draw a parallel with projective techniques in psychology, which are rooted in the concept of psychoanalysis. So, the correspondence between this example of visualization application and one of theories is determined by pursued educational goals. In addition, a human himself is free to choose the way and direction of his perception. The author would emphasize that there is no goal just to entertain using interactive techniques. The real goal is to develop in a person the ability to make choices. Since a priori an individual has the right to create his own impression of museum exposition, a person is trained to choose.

The psychoanalytic concept is complemented by ideology of Max Lüscher's approach, which was reflected in themes of the various gallery zones. For example, the "red" zone called "Expression" includes pieces of sculpture, design, art. While the exhibits of the "blue" zone are united by the "Life" theme and are related to natural history, the environment, science and archeology. The choice of zones' colors is not accidental, since red, according to Lüscher, is the color of emotions and activity, and blue is the color of tranquility and stability (Gudkova, 2016). Art and design are dynamic and affect emotions; history, science, environment are more static, quiet and use to give a human being a sense of stability.

According to phenomenology of Maurice Merleau-Ponty, the perceptual experience is manifested as an open dialogue between the subject and the object that reveals the fundamental meaning-generating structures and mechanisms of "vital communication" between the human consciousness and the world (Dreyfus, 2002). This approach is implemented in the gallery with paintings depicting the plots of famous fairy tales. Here, the very environment provokes to "try on" the role of characters and reproduce the plot. So, the items depicted at painting are placed by painting, which can become elements of such game. On the other hand, the effectiveness of this method of representing a painting can be easily explained on the ground of the archetype theory by Karl-Gustav Jung, which is due to appeal to fairy tales, in which archetypes are primarily manifested (Bertholo, 2013). As it was mentioned above, one theory's suitability is determined by the pursued goals and is freely chosen by the person himself in the process of perception.

According to Jungian conception, there is something common for all people, which is beyond the limits of consciousness; it makes comprehensible (Bertholo, 2013), for example, the proposed "game" with the still life of Henri Matisse. There are tablets placed opposite these paintings, on which one can move real items depicted, which allows one to feel the distinction of Matisse's compositional solution. It is important that without knowledge of painting basics, color combinations, compositional decisions, a visitor eventually comes to the fact that the best option is exactly what is depicted on Matisse's painting. The methodology of art therapy (Edwards, 2014), continuing the concept of Jung about the collective unconscious, corresponds to example of vase representation, which should be "decorated" with flowers,

and a stained-glass panel that can be "folded" using multi-colored plastic elements lined up in a certain order.

The humanistic approach in psychology, which main object personality in its unique integrity, which represents an "open opportunity" of self-actualization, inherent only in human, determines the whole ideology of Kelvingrove Museum. In a particular case, this approach is manifested, for example, as pedestals for children placed in front of paintings in order that a child can see the painting "as an adult". That is because children look at the paintings from the bottom up and see them distorted. In addition, there are practically no ban on touching exhibits in the Museum, the protection of exhibits is very original. These methodical techniques allow a person to retain one's individuality and at the same time to train one to choose.

Within the humanistic psychotherapy of Carl Rogers, a human is understood as the integral unity of the body, psyche and spirit. The essence of this approach is recognition of person's freedom to build one's own life and an ability to do this (Angus, 2015). The ideology of this approach is implemented as separate rooms for some paintings equipped with small sofas. For example, it is assumed that a person may remain alone with Salvador Dalí's "Cristo de San Juan de la Cruz" and perceive it in a special way, think it over. Exactly in such conditions, the ability and freedom of perception of art are developed. In addition, the painting can serve as a "catalyst" helping a person to expose one's latent abilities for self-development.

The concept of Kelvingrove Museum as a whole corresponds to the idea of James J. Gibson's ecological approach claiming that a person, involved in creative field, begins to show independent interest in cognition. The arrangement of exposition corresponds to the ideology of humanistic psychology, with its values of self-actualization of the individual, creativity, freedom, responsibility, autonomy, interpersonal communication, and the creation of favorable conditions for development. As one sees by the example of Kelvingrove, different concepts can be combined in one space. Moreover, the optimal combination of methods of psychological impact contributes to development of perception of visual information.

7. Conclusion

Thus, in Kelvingrove Museum, each person finds something valuable, corresponding to one's goals, interests and thesaurus. In addition, a person is trained to choose. This process meets the requirements of bioethical education. But there is a problem of effective usage of visual teaching aids; at the same time, the problem of perception of visual information is stated in the scientific literature. But the level of its elaboration is still insufficient to create a successful and safe way of visualization of educational material. To qualitatively apply this methodical tool, it is necessary to rely on cultural traditions of perception and individual characteristics of a perceiver. It is possible and necessary to use different approaches and methods, since education deal with different personalities, different situations, and the effectiveness of education can not always be achieved on the base of a single point of view. This allows one to tell about the need to combine different approaches and designate limits of their applicability, and the very connection of different approaches makes sense, since each of them is focused on a single aspect. The understanding of these aspects' scope is fundamental, which is clearly

demonstrated by the research model of the information-synergetic approach chosen by the author. The research position presented in this work opens up opportunities to categorize theories of perception of visual information, which is undoubtedly relevant for methodical regulation of their application in bioethical education.

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