IFTE 2016 : 2nd International Forum on Teacher Education

Interdisciplinary Concept of "Image" in the Cross-Cultural Pedagogical Technology of "ART+"

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Abstract

http://dx.doi.org/10.15405/epsbs.2016.07.48

This article presents the principles and mechanisms of Cross-cultural pedagogical "Art+" technology work, which implements an idea of integration of sciences and arts into the learning process. The technology is based on the universal concept of "image", which adds valuation and subjective connotation in relation to the new knowledge and helps to lean on associative connections during the actualization of the student's experience. Education designing happens according to principles of intersection and complementarity of two cultures: natural-science and humane. The power of the image in its interdisciplinarity can be perceived by feelings and consciousness. The mental image of the object there are integrated the real and abstract things, or concretized the details and properties, developed new, imaginary patterns that can be expressed as a semiotic, linguistic, and painting resources. The urgency of the universal concept of "image" in education is confirmed by its wide use in art (artistic image), and science (symbolic imagery, semiotic models).

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Keywords: Culture, art, science, education, image, pedagogical technology.

1. Introduction

Interdisciplinarity desire in education process became a distinctive feature of our world. You can see some historical pattern here, which, along with the increasing role of visual information, provoked, according to leading visual culture theoreticians, a "cultural turn" (M. Dikovitskaya) or "figurative turn" (W. J. Mitchel). Indeed, usual verbal methods of information exchange: radio, newspapers, text magazines were replaced by visual: computers, videos, glossy magazines and advertising in the last 15 years. According to W. J. Mitchel, this turn to drastic cultural changes manifested itself in specific return of technologically advanced cultures to the mythology. The dominating of visual way of

information exchange over the verbal one is typical for mythological view of life. It seems, that cultural development of mankind made a giant curl and came full circle, at the qualitatively new level, of course. It may be no accident that an ancient syncretism serves as interdisciplinarity, integrity nowadays, and represented by synthetic kinds – movies and TV – in arts.Along with "cultural" or "figurative" turn increases the importance perception ability of visual images and image thinking in the structure of individual development.

1.1. Problem statement

The polysemy of the word "image" and the role of image thinking in the mental life of a person can make image a key pedagogical mechanism of education. In fact, image is the appearance of a real object and the picture, that conveys the idea of that object, and the subjective judgement, and the metaphorical synthesis, and the model of the existing, and the generalization, real or hypothetical.

Image power lies in its interdisciplinarity, it can be perceived by both senses and consciousness. The mental image of the object integrates real and abstracted, concretizes particulars or qualities, forms new, imaginary models, which can be expressed by both semiotic and language means and figures of speech. The urgency of the universal concept of "image" in education is confirmed by its wide range of use in arts (imagery), as well as in science (symbolical image systems, semiotic models). Psychologists say that "man learns the world around by images, not the knowledge sum. Knowledge organize, build images in the system" (V.P. Zinchenko).

1.2. Research questions

Cross-cultural technology of "Art+", implementing the idea of integration of sciences and arts into the learning process, is based on the universal concept of "image", which adds a value and subjective connotation in the relation to the new knowledge and helps to lean on associative connections during the actualization of student's experience. Education designing happens according to principles of intersection and complementarity of two cultures: natural-science and humane, the danger of their disparity appears to be a discussion topic of public figures and scientists, like Ch. Snow, J. Prety, A. Perucci, etc. The very existence of discourse, in the opinion of its participants, appears to be a resource of future culture development, implemented in the fundamentally different concept of education.Such concept can be designed with the help of our technology, during the implementation of which problems, connected with the usage of new connections, general and universal laws governing a phenomena and semantic elements of learned subject with the art, are solved.

1.3. Goals of research

The development of cultural-capacious technology, based on the concept of "image", which increases the efficiency of the educational process. The advantages of using image in the educational technologies are lying in its interdisciplinarity with the fact that image can be perceived by both feelings and consciousness, so it fits for the development of scientific, as well as imaginative thinking. Image will help to identify connections between the content, general and universal laws governing a phenomena and semantic elements of learned subject with the art.

2. Methods of research

The easiest way to present the mechanism of technology usage is to draw a "grid", where in vertical direction the meaningful vectors of learned subject are lined and in horizontal direction – meaningful vectors of art. At intersections of scientific and imaginative knowledge appear "knots" of understanding in the learner's mind (W.S. Bibler).Detecting the "knots" of integrity and convergence of the educational fields with the art significantly increases the meaningful and emotional image-bearing intension of information, greatly reducing its shape, i.e. providing "close packing" (V.P. Zinchenko, A.I. Nazarov).

The universal example is Van Gogh's painting "The Starry Night". Through the image of full of expression and anxiety starry sky with raging colourful and luminous spectacle, in clouds and twirls of spiraling star motion is represented high-profile model of liquid turbulent patterns, resembling the mathematical equation of Russian scientist Andrey Nikolaevich Kolmogorov, concluded in 60 years after the painting creation! Kolmogorov was close to an understanding of the work of turbulent patterns, however the full description of turbulence still remains a serious physics problem. No matter how difficult it was to understand turbulence mathematically, Van Gogh managed to catch the whole depth of motion nature and represent it in the painting. Clash of clouds in the centre of the painting, forming a spiral splicing, resembles Ancient-Chinese symbol of harmony – Taiji, and gives the painting a deep philosophical meaning. This symbol shows the struggle of two opposing principles: the active light male principle yang and the passive dark female principle yin. The essence of all living involves in it since in the interaction of these principles lies a reason to any change.

Thus, THE IMAGE is a subjective world view and a living, visual representation of anything, it is the appearance of existing and the copy, mark in consciousness of objective phenomena, and imaginative reflection of ideas and feelings in sound, word, line, colour, and a visual demonstration of a phenomenon through the other one, more concrete; comparison, likening. Consequently, given the specificity of modern culture with its unlimited flows of information, visual priorities, desire for integration, strongly expressed semantic principle and new forms of manifestation of mythological world perception, we developed and tested in practice our cross-cultural pedagogical technology with the key concept of "image". Cross-cultural technology of "Art+"embodying the idea of integration of sciences and arts in the learning process, helps to ease the downsides in it:

- The discrepancy between the entirety of culture and its fragmental representation in different learning subjects;
- The gap between the child's typical integral view of life and "monocources" of the learning subjects;
- The child's subtraction from the cultural traditions, inactive emotional and axiological relations to the world;
- The disparity of volume of education content to the child's abilities, the remoteness of subjects from each other, from life and experience of the students;
- The inability to find the optimal ways of interacting with the sign and symbolic reality.

The usage of new connections, general and universal laws governing a phenomena and semantic elements of learned subject with the art will provide "interchange" and complementarity.

The technology is implemented on the principles of:

- Culture capacity–provides an introduction of general cultural context necessary for understanding of the language of culture;

- Dialogueness–aims to develop a culture of communication starting from the simplest systems: student – his near circle; moves to more complicated – human and nature, human and science, human and art, human and humanity. Activation of a possibility to explore the world by making an active dialogue with it.

- Emotional saturation – the saturation of a lesson with bright moments of "live" knowledge causes emotional understanding of the content,well, as was written by B.V. Asafyev, "Emotional understanding creates a sense of value".

- Creativity – provides a creative nature of a learning process, students' business starts with the birth of the spirit towards to the sudden inspiration, when there appears a new idea in the mind.

- Complementarity – of scientific and imaginary content.

Mechanisms providing a technology work:

- Bear on the concept of "image**".**The universal concept of "image" which adds a value and subjective connotation in the relation to the new knowledge and helps to lean on associative connections during the actualization of **s**tudent's experience.

- Decussation and complementarity:Provides detecting the "knots" of integrity and convergence of the educational fields with the art, which significantly increases the meaningful and emotional image-bearing intension of information, greatly reducing its shape, i.e. providing "close packing" (V.P. Zinchenko, A.I. Nazarov).

- Inclusion of oppositional languagesof science and art into the learning process is based on the principle of subsidiarity, which was proposed by N. Bor, who thought that for the presentation of one knowledge is necessary to use two mutually exclusive languages. Languages of science and art are exactly those languages and their opposition ensures the development.

- A comparison and interconnectedness of oppositional pairs of concepts, which was tested by the time: this opposition was that very one, on which were built myths of all world nations in ancient times, which are known as "textbooks" of life, activating the development of culture.

- The usage of new connections, general and universal laws governing a phenomena and semantic elements of learned subject with the art will provide "interchange" and complementarity.

3. Results

Cross-cultural pedagogical technology of "ART+" can be used to teach children on any subject at any age. It is important that the material, used for complementarity of a subject with art, should be available, understood and was interesting for children of a certain age group, with which you are working. In Table 1 we give an example of finding "knots" of integrity and convergence of "The world around us" subject in primary school with art (basically with that kind of art, which children are

studying through the program of "The world of artistic images", whose author is the author of this article)

Table 1. "Interchange" and complementarity of content of "the world around us" subject in primary school with arts.

Art "The world around us"	Kinds and genres of art	Images of art	Language of art	Language of signs and symbols	Epithets, oppositional pairs, allusions
Nature is that surrounds us, but was not made by humans	Landscape in painting and graphics. Description of the nature in prose and verse	Variety of natural landscapes in art images	Colour, line Perspective. Sound, word	Signs of earth, water, rain, plants in an ancient art	Powerful, various, vulnerable, unprotected
Live nature	Landscape Animalistic genre Lyric poetry Fairy tale	Character of the nature and natural objects (rivers, lakes, springs, sea-ocean, a tree, a mountain) Nature mood: cloudless-stormy, calm-storm. Images of animals.	Colour, line, composition, rhythm, pattern, volume Sound, word.	Signs of earth, water, rain, plants, birds and animals in an ancient art	Gentle, caressing, terrible, devastating. Fast, agile, furious, dangerous, pathetic.
Natural events	Landscape Peoples calendar	Contrast conditions of the nature in art. The seasons of year in paintings, poetry, music.	Colour, line composition, rhythm, pattern sound, words	Signs and symbols of storm, winter, spring, summer and autumn. Symbols of peoples calendar.	Spring, drippings, snowdrops, sunny days. Golden autumn. Winter, snow, snowstorm, frost. Snow kingdom, etc.
Stars and planets The Sun is the nearest star to us, source of light and warmth	Arts and crafts Myths, fairy tales	Mythological images of Sun (Yarilo, Svarog, etc.), constellations of stars	Cold and warm colours.	Salt signs in an ancient art Symbols of painting of sky and stars.	Warm, caressing, life-giving, scorching, burning, devastating.

The Earth is a planet, Earth's rotation, change of day and night	Landscape, Fantastic images of space and the Earth Models in science and art	Mythological images of the Eart, day and night (Syrin bird, Alconost, etc.) The Earth as one of the natural forces	Shape, size, scale, pattern	Symbols of the Earth and ground. Symbols of the planets, Zodiac signs	Small-big. Round, Blue, Rotation and the change of seasons and time of day.

Fig.1 clearly presents a model of complementarity of content of "The world around us" subject in primary school and "Visual art" subject by identifying "knots" of integrity and convergence of the educational fields with the art. Unfortunately, we are not able to show examples related to literature and music within this article.
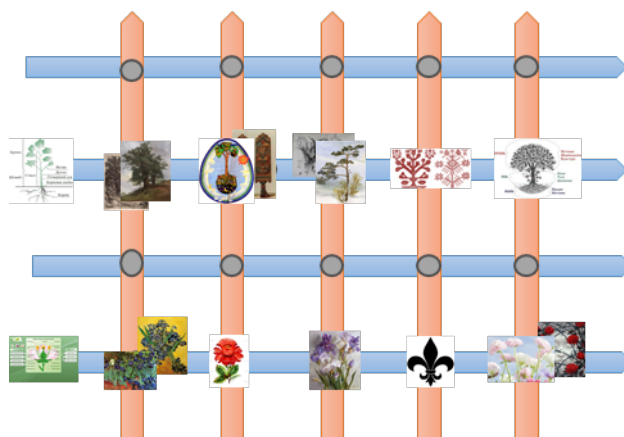

Fig 1. "Knots" of integrity and convergence of "The world around us" subject in primary school with arts.

The integration of scientific and imaginary knowledge in this article gives a chance to comprehend the image of a tree, which embodies the universal concept of the world, mythological representations about it, its role in culture development, the structure and specificity of tree life, which formed the basis of special relationship with it in culture. Thus, exp*a*nding the borders of understanding of the world by a child, we help him to master the world not only in the rational and logical way, but by images, too; and at the same time through straining his memory, imagination, through usage of logical structures – child built his own different models, which can be somehow connected with the image of a tree: a tree as a model of world-making; as the axis of the world or the road connecting the underworld, earth and sky; as the symbol of synthesis of earth, water and sky or the symbol of a strong energy of growth, image of reviving life; a tree as a living organism, etc.

4. Conclusions

The inclusion of oppositional languages: of science and art, and oppositional pairs of concepts in the learning process ensures its effectiveness. It increases students' interest in learning, increases the volume of remembered information, broadens the mind, helps to understand the world in its entirety.

Comparisons and connections between oppositional pairs were tested by time: it is known that all myths were built on a base of this opposition, myths were "textbooks" of life, activating the culture development.

5. Acknowledgements

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