Animated Technologies in the Formation of Students' Moral Values: Methodological and Practical Aspects

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Abstract
This article gives a brief overview of existing animation software that contributes to the moral education of students. It points out the peculiarities of the programs that can be used in the educational process. The author emphasizes such conditions as the availability of software and free choice, which influence the organizational and managerial decisions, made in an academic environment. The author believes that animated technologies can be used as a tool for the moral education of a person, as well as for his creative development. In author’s opinion, it is necessary to create all conditions for a successful choice of the software that allows to train highly educated teaching staff according to the need of moral values, established by the society, and quality of life improvement.

Keywords: Moral values, education, development of creative thinking, informative and communicative technologies, animation, animated catoons; моральные ценности, образование, развитие творческого мышления, информационно-коммуникационные технологии, анимация, мультипликация.
Introduction

The use of animated technologies in the education of the students – is a well-known way to improve the cultural level, moral upbringing, and to form behavior norms. From year to year various animated films become of great importance in the educational process, as they have many advantages over various moral instructions. This fact is well illustrated by the changes in the objectives and tasks of the system of moral education, the latter, in turn, requires the innovative solutions, interesting methods of impact on the young people’s minds, feelings, emotions and on the development of their creative thinking.

The importance of this research is determined by the theory that the human being’s moral actions are managed by the model of behavior, existing in his moral conscience. This theory turns to be important in the context of modern animated technologies’ impact on the way of thinking, feelings of the personality, and as a result – on his actions. Person’s moral activity, reflected in the actions as the behavior acts, occurs in the space, that surrounds him, in a society, where small acts always entail consequences, which have a huge impact on the formation of character and strong-willed personality. That’s why the significance of the information flows’ influence on the young students’ minds, reflecting in their social practice of activities and interpersonal communication, should be taken into account.

The methodology and theoretical part

The methodological basis for our research is the theory of post-industrial society, which, in turn, is one of the concepts of Western social and philosophical futurology. In our opinion the term "futurology" means the vision of the humanity’s future, an area of knowledge, which covers the perspectives of social processes. According to the theory of post-industrial society, put forward in 1970, the overwhelming majority of the population will be employed in various fields of service and intellectual production, will be oriented at the improvement of life quality, satisfaction of cultural needs. For our research we consider the view of Daniel Bell, the theory founder, very important – he focuses on the creation of new social structures, changes in the value orientations, when the computers’ era comes [2].

The theory of the informative society, based on the theory of post-industrial society, has received further development in the researches of foreign scholars – W. Martin, D. Tanskott, Y. Masud, Francis Fukuyama, F. Webster, etc. So, Frank Webster, considering the theory of informative society, has pointed out that information stands for main characteristic feature of the modern world [20, p. 3].

The views of modern Russian scholars, who have researched the ideas of the informative society’s formation, should be also mentioned. Thus I. Melyukhin, revealing the essence of this theory, writes about the cultural impact of the information on the personality [9, p. 14]. The author points out that in the informative society the specific technologies aren’t taken into account. He stresses that the informative society should be "technologically neutral", although it should include all the facilities, offered by modern informative and communicative technologies [12, p. 43].

E. Kuzmin, V. Firsov consider preservation of the cultural heritage to be the most important thing in shaping the informative society in the 21st century: "The preservation of cultural heritage stands for one of the paramount components of self-identity and self-consciousness of individuals, which links the society with its past. Using all appropriate methods, along with the digitization, the informative society should preserve cultural heritage for future generations" [7, p. 564].

Representatives of mentioned above theories have paid the utmost attention to the education, which has been further reflected in the report of the International Commission on Education in the 21st century "Learning: The Treasure Within" [9]. According to opinion of the committee members, the education should be based on the following principles: to learn to know, to learn to do (be competent), to learn to live together, to learn to cooperate with others, to long for the achievement of common goals, to learn to live. As
for the latter principle of the educational system, the authors propose the following ways and recommendations: to promote the flourishing of self-identity, to be able to act, showing independence, critical thinking and personal responsibility.

We have to note that these qualities of a person should be found not only in the principles of the educational system, but also in human-computer interaction. In his monograph the renowned scientist L. Ostrovsky has paid attention to this aspect. The author emphasizes, that the informative technology initiates a logic network of the changes in the social system, which leads to the appearance of such values as a sense of responsibility, mutual obligations: "The impulse of their development is "the spirit of goodwill", involving the use of "voice" instead of "brute force" [16, p. 294-295].

The author has also pointed out the "toxicity" of the information’s influence on human being, which, in our opinion, harmfully affects the processes of moral education, the essence of human life in society. Agreeing with L. Ostrovsky, we need to emphasize his statement: "The information stands for a premier resource of consumption (even at the expense of other vital resources). However, it is structured for mass consumption. But the information becomes "toxic", it is dictated by a pragmatic objective of creation, it gets harder to extract the meanings out of it" [16, p. 298].

That’s why the role of active individual, who interacts with computers in the process of creating, printing and using various technologies, as well as animation, increases. These processes reveal the main factors of moral education: value orientation, content and variety of students’ activities, intelligence, creative potential, and aesthetic sense. The students, as future teachers, should take into account the fact that the animated technologies can be controversial in nature. Thus, the evaluative concept of "good" as the primary category of morality, positions the educational influence, which is connected with the activation of different types of activities (intellectual, cognitive, working, playing, etc.), with the expansion of the spheres of interpersonal communication. The evaluative concept, which means negative aspect of human activity, – the "evil" in animated technologies is expressed in such area as computer addiction.

We can’t overlook the opinion of G. Ermilova that modern animatograph is developed in the framework of postmodern paradigm, as it breaks all styles, removing the boundaries between high and low culture. G. Ermilova emphasizes that the ironic "principle of evil" is expressed in it, being based on the hyperreal simulacrum (fake): "it reigns in the animative cyberreality, where the cruelty is mocking and characters-mutants easily perform the morphing; the duality of the reality easily turns into the absurd, when only the act stands for an organizing starter, resulting in the replacement of the hierarchical woody organization of a discourse by decentered root one; the deconstruction breaks collage glued fragments in order to re-use them in the construction of new texts; animated discourse, fragmented and detcentrated, multilocative and heterochronical, takes place in a maze, where there is no entrance or exit, no symmetry" [5, p. 14-15].

Taking into consideration the formation of students’ moral values by means of animated technologies, we have to note that in the universities special conditions should at least be created. They include: the conditions of free access, choice of the software, aimed at the acquaintance of the teachers and students with the possibilities of this process; the conditions for the creative use of animated technologies in the process of cultural products’ creation, the conditions for the perception of moral values as a necessary resource of personal and professional development of students.

According to the purpose of this article, we have also taken into account the importance of the game, no only children’s but also the students’ love of the animated films. It is also necessary to consider the fact that after watching this or that fragment, the students show the tendency to imitate the heroes of the cartoons, and inherit their behavior. This position promotes the development of an interdisciplinary
approach in such areas of knowledge, as informatics, social pedagogy, moral philosophy, psychology, cultural studies, regarding the use of animated technologies in the educational process.

The concept of "animated technologies" has different interpretations, characterized by various vectors of development in the modern educational process. Their use in the process of moral education of young people is one-sided – in the curriculum the fragments or whole animated films are offered to watch. Sometimes they are used during educational events while working with the primary school students. We should also mention the identification of the concepts of "animation" and "cartoon", these terms are used as synonyms by mistake.

As E. Popov has pointed out, the reason of such inaccuracy lies in a historical preference for one of the terms in the context of different national animation schools’ development (European and American on one hand, and Soviet – on the other.) Thus, the term "animation" literally means "revival" so, as the author points out, the creative process of empowering the subject by the soul in the field of screen arts. The "cartoon" (Greek for "multiplication") is thought to be a technical duplication or replication of objects or their properties. According to E. Popov, these concepts represent different processes of activity, besides the term "cartoon" is narrower, technically oriented, and is a part of the term "animation" [17, p. 12-15].

The use of animation depends not so much on the nature of moral problems, arising in the course of students’ development, but on the availability of video-film library, which exists in an educational institution, library of audio-visual information. The future teacher must be prepared not only to use, but also to create an animation, that has a positive moral impact on the students of all ages.

The problem of animated technologies’ use in the educational process is researched in the work of D. Obidnik "Computer Animation", which offers the traditional tool for the creation of animation [14].

It should be noted that the research of such authors as E. Polat, M. Bukharkina, M. Moiseeva, A. Petrov [13], M. Lapchik, I. Semakin, E. Henner [8], I. Robert [18], I. Zakharova [19] and others give a more detailed analysis of these issues.

Thus, the proposed textbook, edited by E.S. Polat and others, acquaints us with method of projects, collaborative training, different levels training, "Student’s Portfolio", as well as with a wide use of computer telecommunications, use of Internet in the teaching practice. However, the textbook pays major attention only to Internet, and all that is connected with animated technologies are offered at the elective courses.

The textbook "Methods of teaching informatics", edited by M. Lapchik, is designed for students of teacher training colleges, future teachers, who attend a systematic course in methods of teaching informatics. The author of the textbook reveals the goals, principles of content selection and methods of teaching informatics at the secondary school. Along with the general aspects of the theory and methods of teaching informatics, M. Lapchik, I. Semakin, E. Henner give specific methodological guidelines for the development of basic and specialized computer science courses. In our opinion, the major drawback is the fact that, the textbook doesn’t reveal the peculiarities of animated technologies’ use in the educational process.

Monograph by I. Robert is devoted to the problems of education’s informatization, in particular to the research of the possibilities of modern informative technologies, to the description of the pedagogical appropriateness of their application and to the perspective directions of their development and use. The author scientifically determines the necessity of the creation and use of training facilities, providing the informatization of educational process. It also gives the analysis of the pedagogical appropriateness of educational software and systems’ use, carried out from the author’s theoretical positions, that represent a typology of software tools for educational purposes, acquired teaching demands, certain approaches to the assessment of their quality. The analysis is based on a research of domestic and foreign software and systems (1987-1994), used for educational purposes, and materials of the international conferences, seminars (1991-1994), devoted to the problem of the use of "Multimedia” technology and systems of
"Virtual Reality" in the educational process. However, it should be noted that the monograph pays little attention to the animated technologies in the educational process, their role and content are not disclosed [18].

The tutorial by I. Zakharova gives the classification of software tools of informative technology of education (ITE) in terms of didactics. The principles and possible ways of integration of informative technology of education into the educational process are presented. The practical recommendations for the use of hypertext technology for the creation of hypertext electronic textbooks and author's educational Websites, designed by teachers are given. However, as well as in the previous monographs and textbooks, the animated technologies are not properly researched.

We stick to the view that the term "animated technologies" is used not only in a technical, narrow sense, but as a system of complex informative impact on the developing personality, and as a pedagogical technology of moral education, based on the use of informative and communicative tools. We have to note some basic concepts, related to the teaching process, – "moral education", "moral up-bringing", "moral conscience," "moral act." In English, there exists only one term – "moral education". However, these terms have different terminology and meanings. So, if "moral education" is a process of learning moral norms, customs, "moral up-bringing" means the formation of the moral qualities of a person not only through knowledge of the rules, but through a complex influences on the entire system of moral senses. I.D. Bekh thinks teaching educational system to be a system of subject-subject relations in educational environment, which should lead to the desired educative result. The scholar calles watching the simulated stressful situation (cinema, theater, etc.), one of the forms of "hedonic risk", widely used by young people. The mechanism of "hedonic risk", according to I.D Bekh, is resulted in fights, hooliganism, and different forms of vandalism [3, p. 343]. Taking into account mentioned above mechanism, the scientist suggests to use it through socially acceptable forms. We agree with I.D Bekh, and offer a wide use of following group activities in the educational practice: creation and development of animated movies with a given moral subjects, in which the teacher acts not as a leader, but as an organizer of the exciting activity, as one of co-authors of the developed plots.

Implementation (hands-on)

As the object of the study is animated technology, aimed at the moral education of students, we need to explore the possibility of using animation in the educational process.

Research tasks: 1) to consider the opportunities of the software while creating animation; 2) to provide technological ways to use the possibilities of animated technologies in the process of moral education of students.

As for such condition as an easy access and free choice of software, the aquantance of the teachers and students with the opportunities of this process, it should be noted that in this case the possibility of choice occupies a major position. In the field of software, a free choice of the animated technologies acts in all its diversity, which should not be limited to duplication, but should only indicate technologies’ quality use in the creative process. The limits, according to which the choice of software can be regarded as real, are reduced by the conditions of financing, as well as by the preliminary information on the successful choice. The university teachers should have the data about software. Thus, the management of the software choice with the help of the possibility of the determination of the programs for their creative use, gives an opportunity to identify necessary information about educational practice and facilitates the management and organizational decisions making, regarding the use of any software product.

There exists a large number of computer programs to create animations (Gifanimator, 3D Studio Max, PhotoShop, Flash, Anime Studio, etc.). In this article we research their advantages for a process of
moral education. What do the animated technologies mean? The basic inseparable part of the term is animation (Latin for anima – soul, French for animation – revival or recovery) is a kind of cinematography. The movie art-works are created with the help of shooting of the consecutive phases of objects, both three-dimensional (volumetric animation) and drawn (graphic animation).

Animation is the process of giving the objects the ability to move or the sight of life in fictional world of art works.

The animation is also determined as the sphere of entertainment, organization of leisure activities in the children's summer camps, at children's parties, etc. We understand the process of using animated technologies in the moral education in the framework of the direction that involves personal partnership of both teacher and student.

We should emphasize that there exist several types of animation.
1. Graphic (drawn) animation – the classic kind of animation, where objects are drawn by hand (today the pictures are often transferred into computer).
2. Volumetric (material) animation – the objects stand for separate elements of the material world: plasticine animation, puppet animation, loose animation.
3. Computer animation – a kind of animation, when objects are created by means of computer tools: 3D-animation, 2D-animation (flash-animation, etc.). D.V. Odnovol researches these kinds of animation [15].

We research the programs to create animations that can be used in the formation of the students’ moral values. Adobe ImageReady program allows to create GIF-animation.

We’d like to note that the animated GIF-images, used for the educational process, are the most popular. They exist as a way of Web-pages' "animation". GIF-animation is the standard for creating a "banner" (advertising headpiece) in the virtual space of Internet. The impact of advertising on a person is very sufficient, and this GIF-animation should take into account the images that are reflected in person’s mind. From the technical point of view, the formation of animated GIF-image is based on one of the oldest principles of animation. This principle is realized through a fast change of the moving pictures, slightly different from each other. We emphasize that all animated GIF-files contain a number of separate shots. These shots, one after another, in sequential viewing, create the illusion of movement. In turn, the moving object on the screen attracts attention, stimulates mind processes, and all that is put in the moving, can have a significant impact on the moral consciousness of a person. Going back to the technical side of the issue we should add that each shot of GIF-animation is placed on a separate layer. It happens that it helps to control the status of its objects.

Adobe ImageReady program, used to create graphics, has a graphic package. This is the standard kind of software, used by computer designers. A step-by-step tutorial for a school course of informatics "Creating GIF-animation in Adobe ImageReady" stands for an example of the use of this standard package [10].

In order to form moral values in the educational process Photoshop can also be used. This multifunctional graphic editor has got its development in the mentioned above program – Adobe ImageReady. The editor is designed for raster images, and optimizes them. Photoshop is also used for creating banner ads, animation.

The interface of GIF-animator doesn’t differ greatly from that of Photoshop. We present the following step-by-step technology to create shot animation.
1. Open the window of "ImageReady", find the palette "Animation" (If the palette is not visible on the screen, it can be found in menu Window – Show palette animation).
2. In the context menu of the palette "Animation" choose "Create shots of the layers."
3. In the palette there will be images that correspond to the sections of the image.
4. Prepare the images from which the shots for the animation will be created (in order to form the moral values it is necessary to use images that are resulted in such emotional reactions as self-control, activity, optimism, altruism, generosity, etc.).
5. In the context menu of the palette "Animation" choose "Select all the shots".
6. Set the time to show shots, taking into account their location in the correct sequence.

The peculiarity of this technology is the transition from the editor of ImageReady to Photoshop. File lets you do it – Go to Adobe ImageReady, if the student works with the editor of Photoshop. If you need to go to ImageReady editor, you have to use File – Go to Adobe Photoshop.

The following program, which can be used for the process of moral values’ formation by means of animation, is 3D Studio Max.

We have to note that 3D Studio Max is a software for three-dimensional animation’s modeling. Nowadays, unfortunately this program is used to create images that do not meet socially positive reactions, because the fantastic monsters start talking with the users on the screen. It should be said that a new version of 3D Studio MAX offers many opportunities for three-dimensional models creating. These models are widely used by the creators of 3D-cartoons. "The Haunted Castle," "Megamind," "Monster House" and other well-known games, where the fantastic monsters have an impact on people, their moral conscience, form the antisocial, negative reaction.

In our opinion the architecture of 3D Studio MAX, while creating animation, allows to take advantage of more than one hundred connected applications, which give the opportunity to add impressive effects (flowers opening, sunrise – all things that demonstrate positive sides of human’s existence in nature). Using 3D Studio MAX SDK, from the technical point of view, you can create application-modules, characterized by the original look. Moreover, this program can be used to promote such moral qualities as love and respect for others, care for nature, good faith, emotional response, attention, etc.

Blender is the other program, which can also be used to form moral values. It is designed for three-dimensional modeling. The efficiency in use is one of its advantages.

We have to add that the interface, the combination of "hot keys", modeling tools of the mentioned above programs, used to work with three-dimensional graphics, are similar, but their interfaces differ.

Blender program has the technology, which gives an opportunity "to break" the window of the program into the parts while working at three-dimensional scene (there may be up to twenty of them). In addition, each part of the window is an independent one, it is displaying different modes of program operation: the three-dimensional scene, the settings of the object, the line of the scale timeline, edit mode and object mode. Polygon and NURBS-surfaces are used in Blender program to create three-dimensional models. The usual animation, the work on hero equipment, building skeleton, the connection of the bones to the outer shell – the tasks that mentioned above three-dimensional editor fulfills. S. Bondarenko and M. Bondarenko point out that Blender is a great tool for three-dimensional modeling and animation, as this program not only works in Windows environment, but also in Mac OS X, FreeBSD, Solaris, Irix and Linux [4].

The capabilities of another program, Flash, provide the freedom for creativity. One of the advantages of Flash is the ability to make interactive interface elements. Having mastered Flash program, students can independently create their own games, animations, presentations on moral subjects, and also develop the
menu of the site and screen savers that promote the problems, related to the moral formation of the personality.

Animation of movement means to make an object smoothly change its position. Parallely the time factor should be taken into account because the shots, unlike previous programs, should overlap over certain periods of time. One abstract unit of time in this program must correspond to each cell of scale Timeline – the moment of time, which, in its turn, must correspond to snapshot of the object in a certain state.

Together with it, the state of the object is characterized by its size, color, position in space, form. To learn how to create simple animations, students have to master the properties of the instruments of Flash system. During the creation of step-by-step animation in Flash, you can draw flat, two-dimensional objects by creating each shot individually, as the artists-animators did.

The technical advantage of this program is an automatic animation (tweened), to our mind it is more effective because with its help only the starting and ending shots of a fragment are created, and Flash completes all in-between shots itself [6].

We’d like to emphasize the next program, which lets you create animated characters –Anime Studio Pro. This program is designed not only for the professionals – digital artists, but also for the animators-beginners. This program creates the characters, objects and scenes, using vector drawing tools. A special feature of this program is the fact that it allows both to create one’s own characters and import any pictures. This program differs from the analyzed above ones in the possibility to use the beforehand recording of your own audio clips that have to be meaningful. For example, there may be moral judgments with positive psychological attitudes. After the character creation, you can use audio files and relate them using the lip sync. The following effects are also interesting: anti-aliasing, shadows, which increase the aesthetic perception of the created character. It should be said that Anime Studio offers the beginners a Debut version, which, unlike the professional one, is easy to use [1].

After we have analyzed mentioned above technologies, it has to be said that the animated gif-format is the easiest one to create, and any modern browser can show it. Animated gif-files are usually created in such programs as Adobe ImageReady or Ulead GIF Animator. Unlike the gif-animation, which allows to place only images in the file, Flash program lets users combine animation, sound, text, graphics into one format, and use the elements of interactivity. It looks like Anime Studio Pro program, which allows students to change the data, so makes them active participants instead of being passive observers. Online training programs, games, quizzes, audio files are interactive elements, which directly influence the moral conscience of youth.

Conclusion and research perspectives

Thus, the educational system, carried out by means of animated technologies in pedagogical high school, must appear as an organized set of both media impact on the students’ feelings, emotions and specific educational methods. It is also very important for future teachers as the process of creating a specific product is carried out in a fun game. Among the ways of such work we can name co-operation and co-creation, which are important for the focused formation of an individual with given moral qualities. In order to make this definition more clear from the point of view of using animation as a part of the educational system, we’d like to note that this approach to the educational process is a technological one, it gives the ability to design and modify different temperaments and personal characteristics of students.

Practical activity, to be more exact, the creation of animation, aimed at the given moral qualities’ formation, turns the amount of theoretical knowledge about this process into a system, which leads to a final result.
The perspective of the research is the development of guidelines for the formation of a system of future teachers’ moral values.

References