Practice-Oriented Model of Teaching Animation Technology at Higher School: the Ukrainian Experience

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Abstract: The problem of creation of experimental models of practice-oriented training has already attracted the attention of renowned scholars. There are many native and foreign works devoted to teaching higher school students with the help of the latest technologies. However, no research has been found on the problem of practice-oriented simulation of teaching animation technology based on competence centres in the course of creation of advertising, in particular, “Animation in advertising”. For this purpose, such an experimental model has been firstly developed and tested at the Institute of Journalism of the Kyiv Borys Grinchenko University. The research reveals the specifics of implementation of the model for the students who obtain their Bachelor degree according to the educational programme “Advertising and Public Relations”, analyses the results and outlines further perspectives of its implementation in the educational process of high school. To evaluate the experiment and receive a feedback, a survey has been conducted among 50 students of the 2nd year of study and 160 students of the 1st year of study at the Institute of Journalism. The results of the survey have shown that the students highly appreciated the practice-oriented teaching of animation technology at the centres of competence. 150 of them have chosen discipline “Animation in advertising” as an optional one according to the other specialty.

Keywords: Practice-oriented study, experimental model, academic discipline, teaching, animation technology, animation in advertising, animation video, media literacy

I. INTRODUCTION

One of the topical issues which is currently worrying academics and media educators is the problem of creating experimental models of practice-oriented learning, which anticipates the transition from the normal transference of knowledge to the practical acquisition of professional experience. In this sense, for example, the works by D. Kolba deserve for attention, whose theory of experimental teaching works on two levels, in particular on four stages, taking into account four learning styles, and refers to the internal cognitive processes of students who gain the knowledge through experience: “Learning is the process where knowledge is created through the transformation of experience” [15]. This theory, as noted by A.Y. Kolb and D.A. Kolb, has been widely used in research and practice of management of education for thirty-five years. Based on the fundamental works by K. Lewin, J. Dewey and others, the theory of experimental learning involves dynamics because it is grounded on cyclic learning, the space of which is multileveled and develops in different directions on the level of the individual, group and organisation. Theory of experimental teaching is useful for development and implementation of educational management programmes in the field of higher education and management and development [14].

The best way to study a profession is to gain practical experience of work in it, which is especially relevant to journalism. This vision of the problem gives the grounds to some scholars to criticise the existing training systems available at universities, for example, from scholarly journalism in Spain [5] etc.

In Ukraine, G. Gorbenko [13] has partly studied the peculiarities of introducing a practical-oriented approach to the professional training of bachelors of advertising and public relations. However, the theoretical, methodological and technological aspects of this approach, especially in the training of media professionals, have been little researched. It becomes obvious that this problem is relevant.

In today's conditions of real competition on the Ukrainian labor market, in many organisations there is a shortage of skilled, practically oriented staff capable to successfully develop and implement knowledge-intensive technologies and realise real business processes by means of innovative technologies. This situation leads to contradiction between the system of higher professional education in Ukraine and modern business, which stimulates the higher school to develop new educational experimental models as the basis for the development of innovative learning technologies, which undoubtedly contributes to increasing the student's motivation to acquire professional competence, and significantly reduces the adaptation period of university graduates during the transition to practical activity at organisations and enterprises [13].

One of the experimental educational models in Ukraine is an innovative strategy for practical training introduced at the Kyiv Boris Grinchenko University in 2016. It provides immersing in the Centers of competence [20].
For example, at the Institute of Journalism, which is one of the structural units of the university, students acquire professional skills in the centres of modern communications, broadcast and digital broadcasting, multimedia technologies, information analytical centre and educational production workshop “Grinchenko-inform”.

Creation of Centres of competence is an innovative advance in the Ukrainian education which reduces the time for traditional lectures and theoretical seminars, promotes the use of interactive technologies with wide application of information and communication technologies, pays more attention to practical training and practice-oriented research, introduces effective monitoring of knowledge assessment and new forms of training with further compiling a student’s professional portfolio. Their network promotes the formation of digital and media literacy of future professionals, helps them adapt to production processes, acquire necessary skills and abilities of teamwork and individual responsibility. Among the priorities of the activity of practical centers as an innovative form of professional employment of students, the following are defined:
1) creation of centers according to the profile of training;
2) replacement of part of passive teaching methods by interactive ones by means of increasing the latter;
3) increasing the number of professionally oriented disciplines and agreeing them with the content of work of the centers;
4) using a network of centers for testing effectiveness of selected disciplines and appropriateness of their subsequent implementation in the educational process;
5) attracting highly qualified practitioners to the educational process.

That is why the purpose of our study is to find out the effectiveness of introducing a practically focused experimental model of learning in one of modern technologies, i.e. animation technology in multimedia environment of higher education.

That is why the purpose of our study is to find out the effectiveness of introducing a practice-oriented experimental model of teaching of one of the most modern technologies, i.e., animation technology, in the multimedia environment of higher education, in particular, at the Kyiv Boris Grinchenko University.

The inquiries of information society encourage to organise the learning process in such a way that it would contribute to the development of inner motivation of each pupil or student, cause sustained cognitive interest, form a system of virtually needed knowledge and skills that would provide positive opportunities to master a profession in the future. Multimedia technologies that do not only allow to visualise information for users but also help them better understand and remember it are recognised as an effective means of organising this process.

One of the varieties of such technologies is animation, being the most effective communication tool practically in all spheres of life: advertising, business, education, design, architecture, medicine, technology, etc. Researchers of animation technology believe that it has a significant advantage over all other types of information presentation because it makes the transmitted information more dynamic and interactive, which makes it easier for the viewer to assimilate it. This is facilitated by computer technology, which can provide complex information with more comprehensive form to a wide audience [24].

Generally the term “animation” is used in different senses: 1) in the social cultural – it is understood as an organisation of leisure or as a way of conducting social cultural work in various spheres of public life;
2) in the actual artistic – as a form of artistic creativity, a kind of cinema, which belongs to audiovisual arts where animation is a “removal of successive phases of movement of objects, giving a’soul’ to artificially created images” with the help of certain techniques and various means of expressiveness (about the term “animation” in correlation with the terminology of various arts, see works by E. Popov, V.L.Ivashchenko [21]. According to E. Popov, in the contemporary culture animation works are of great importance, as they are more popular than ever; animation provides great opportunities for experiments on creation of new and combination of old techniques and use of the latest advances in science[21].

At present, animation is actively studied in various aspects, in particular, due to: convergence and integration of mass media [2]; comparison of advantages and disadvantages of static graphics and animation [23]; peculiarities of computer (external) and mental animations [10]; computer animation effects for customer’s productivity [3]; combination of high-speed cameras and stop-motion animation software to support the simulation of human movements [17]; using slowdown for animated storiessets [18].

However, there are many unsettled issues facing the scholars that are related to regulation and systematisation of animation terminology, universal classification of animated works and their influence on visual consciousness, animation crisis in some countries, lack of animation schools, systematic knowledge of animation art, etc [21].

Animation technologies of the beginning of the 20th century is a compulsory element not only of screen culture but also of media and e-learning. That is why in scientific writings of our contemporaries we are faced with discussions on the issues of introducing animation technology into educational process as an innovative technology of e-learning. Among the topical issues, for example, there are: optimisation of multimedia learning using animated pedagogical agents, influence on the consciousness of such agents, features of its image and redundancy [1; 19; 8]; principles of animation and interactivity of multimedia learning [3]; creation of spoken animation like stop-motion [11]; educational animation against static images [12]; impact of animation on improving descriptive and procedural texts in multimedia learning environment [16]; providing, facilitating and inhibiting animation effects in multimedia learning [22] and many others.

As the guide for the students who want to master possible animation processes and techniques, go through all the stages of creating an animation film and video, from their preproduction and script writing to displaying and distribution of the finished work, using not only the latest methods of computer animation but also huge luggage of non-digital methods can be the “Bible animation”[9].

Though the world experience of studying animation problems is plentiful with a considerable number of scientific works,
the questions of creating high-quality animation works and the basic principles of using animation and animation technologies in the educational process are not practically investigated in Ukraine, which confirms the relevance of the proposed topic.

In the aspect of our research, we focus on animation as only one of the most effective technologies of video advertising and creation of media content, which gives advertisers endless possibilities for implementation of creative ideas. A unique set of communicative characteristics allows the animation content to formulate any thesis capacious, clearly, dynamically and interactively.

That is why, in order to solve the problem of experimental implementation of a practical-oriented model of education in multimedia educational environment at one of the universities of Ukraine, we have chosen an discipline “Animation in advertising” (the developer M. Netreba) which aims to create knowledge and skills in the field of computer animation as a highly effective technology for creating promotional content that stimulates sensory and cognitive interest of students as a direct internal motivator of learning.

II. MATERIAL AND METHODS

As an example of teaching animation technology within the discipline “Animation in advertising”, the study focuses on the practice-oriented model of training students at the Institute of Journalism according to the educational programme “Advertising and public relations” (the first, bachelor level), which includes:
1) experiment on introducing an discipline “Animation in advertising”; while studying it students are gradually “immersed” in Centres of competence at Boris Grinchenko University of Kyiv;
2) using a new monitoring of assessment of knowledge and creative results;
3) experimental combination of methods of formal education with informal organisation of educational process while compiling a score in a format of a festival of animated advertising.

In order to study the state of the problem development, methods of gathering information (interviews, focused group interviews) and its analysis, firstly, systematisation and generalisation have been applied First of all, it is a search and analysis of theoretical works by scholars who have studied the development of experimental models of teaching and application of practice-oriented teaching approaches in higher education. The research of the proposed model of animation technology training is based on the quantitative method of closed-door questioning, which allows to obtain statistics on its demand and the feasibility of using it in multifunctional environment, as the students themselves see it. Focused group interviewing has been used to discuss forms and methods of teaching in higher school, identification of innovative forms of teaching (animated video lectures) for assimilation of the theory and practice-oriented model in higher school.

A. Participants

In total, 210 students from the Institute of Journalism at the Kyiv Boris Grinchenko University have attended the study, among them: 50 students of the second course of study of the educational programme “Advertising and public relations”, who have been working at their own animation videos in the centers of competence; 160 students of the first year of study who are studying at the educational programmes of the specialty 061 “Journalism” and who have participated as observers at the student’s animation festival and together with the professional jury have tested and evaluated educational videos according to certain criteria.

B. Instruments

To use animation technologies in the process of creating animation videos, students need to have a wealth of knowledge in the field of design, animation, modeling, directing and also know specialised programmes for installation and operation of sound. That is why the new Centres of competence have been equipped due to the requirements and needs of modern multimedia world.

C. The process of creating an animation product

Students used shape animation technology (shape graphics from English “shape”— figure, form) to create educational videos with “flat design”. This is one of the varieties of motion design technology as “two-dimension graphics based on the usage of elemental graphic ‘primitives’ – circle, square, rectangle, etc. (...)” for creation of complex animated communications. (...) Using this approach in commercials allows to present complex information in a structured and simplified way that it can be understood by the viewers. Owing to such implementation, the commercials created by using ‘shaped’ graphics are highly sought after in the field of corporate advertising, as well as in advertising of entertainment and business services, video-instructions and video-presentations” [24].

Time of creation of a training animated video has lasted for 30 hours per 6 weeks. The practice-oriented model of learning the technology of animation while studying the discipline “Animation in advertising” has been realised in several stages:
1) development of the idea, conception, stylistics;
2) creation of the unique scenario;
3) storytelling, drawing the main scenes;
4) creation of characters;
5) animation;
6) speaker’s sounding;
7) musical design;
8) installation.

The first five stages of animation work students worked in the newly established Centre of multimedia technologies, which is planned as the basis for creating cross-media and trans-media student-teaching projects and a base for multimedia electronic library of student’s works [7].

The purpose of the centre is to provide practical training of specialists in the media industry (journalists, advertisers, librarians, editors, publishers) by realising certain tasks for students to acquire a set of such practical skills:
1) computer processing and making ready for printing various types of text and image originals using Adobe InDesign and QuarkXPress, Adobe Photoshop graphics and Adobe Illustrator imposing programs;
2) preparation of multimedia content (audio, video editing, creation of multimedia longitudes, multimedia interactive timelines, interactive graphics);
3) ability to work in multimedia editorial offices in the conditions of monoplatform (online media that do not have traditional counterparts) and multiplatform and cross-media production (converged editorial offices of multimedia holdings).

To create an animation product in the centre, it is used the following didactic materials: library of typographic publications in the design of printed materials and web design, works on layout programs, graphics packages, audio and video processing software, Adobe InDesign, Adobe Photoshop, Adobe Illustrator, Adobe Premiere, etc. (printed books for common usage of student and teachers); electronic library of publications and electronic resources on multimedia technologies (are created on the server by joint efforts of teachers working in the laboratory); tablets with samples of the best student’s works, created in the center (are exhibited on the walls of the centre).

Technically, the centre is licensed by Adobe, has a computer park, powerful computer server for creating an electronic library of student’s works and multimedia.

Upon developing a design conception of animated video, its presentation, discussion with colleagues-students and teachers and adoption, future animators move on to work with sound and music at the Centre of broadcasting and digital broadcasting, which aims to be an effective training and production base for practice-oriented teaching of all disciplines related to production of the audio product, a kind of creative laboratory for modeling the real processes of modern radio production.

The following basic forms of work with students are provided here: practical classes (preparation and recording of information news release, problem interviews, interviews, conversations, reporting, commentaries on actual topics, reviews of newspapers, radio markings performed by students themselves); trainings on the development of speech apparatus, voice setting, temporymetry of reading the text; tests on culture and technique of speech for the correct sounding of the material for radio broadcasting (intonation, diction, correct clear pronunciation); guest master classes with famous radio journalists, anchormen of popular radio stations; situational tasks; thematic games; individual consultations [6].

The final stage of work at the animation video is installation in the telecommute “Astudiya” that has been functioning at the university since 2012 and has significant developments and achievements. Students learn to make video content under conditions of real television.

The study of the subject “Animation in advertising” is completed with non-conventional for the higher school form of control, i.e. a test-based experiment in the format of student’s animation festival “Grinch animation AdFest”, where the expert jury evaluates the work of the participants who have worked at the creation of the educational animation video on the basics of advertising.

D. The knowledge test on animation films

The student’s animation festival “Grinch animation AdFest” has received 25 educational animation videos on the basics of advertising. The jury has evaluated the participants’ works according to five criteria:

1) degree of disclosure of the topic (coverage of the basic notions and the key theoretical statements and relevance to the content);
2) quality and effects (style, artistry, frame composition and other effects);
3) creativity (creative approach, originality);
4) aesthetic impression;
5) technical installation solution (all aspects of the video installation are considered: time, tempo, dynamics, use of sound, music, etc.).

For each criterion, the video could have obtained from 1 to 10 scores, i.e., 500 scores maximum (see Figure 1).

![Figure 1. Jury’s assessment results.](image)

All animated videos have been posted in student’s creative professional portfolios open to employers.

III. RESULT

The purpose of the study has been to find out the effectiveness of introducing a practice-oriented model of teaching animation technology at the higher educational establishment through the gradual “immersion” of students in the Centres of competences, implement a new monitoring of the assessment of knowledge and creative results as an experimental combination of formal education with informal one while taking the test in the format of the festival of advertising. Taking it into consideration, we have conducted a survey among those who studied the discipline “Animation in advertising” which provided the answers to the following questions:

1. Is it necessary to apply an innovative teaching method in the form of animation technologies to the educational process?
2. How do you assess the effectiveness of acquired competences while studying the subject “Animation in advertising” according to the 5-scores scale?
3. How successful would you pass the exam in the subject “Advertising fundamentals” in the format of festival?

The interviewed students answered the first question in the following way: “Yes, it is necessary to apply animation technologies in the educational process” (72%); “No, it is not quite so” (20%); “It may be” (8%); “No, it is not necessary” (0%) (see Figure 2).
1. Is it necessary to apply an innovative teaching method in the form of animation technologies to the educational process?

Figure 2. Student’s answers to the question about the necessity to apply animation technology to the educational process.

The second question has been answered in the following way: project competence has been recognised as the most effective one while studying the discipline “Animation in advertising” (4.5 scores according to 5-scores scale); the second position is occupied by information competence (3.92 scores); the third one – by communicative competence (3.72 scores); the fourth one – by analytical competence (3.12 scores) (see Figure 3).

How do you assess the effectiveness of the acquired competencies while studying in the 5-point scale in the study of the subject “Animation in advertising”?

- 5-point scale
  - 3.92
  - 3.72
  - 3.12
  - 4.5

Figure 3. Students’ assessment of the efficiency of acquired competences while studying the discipline “Animation in advertising”.

On the third question, 72% of students have answered that they would successfully pass the exam in the subject “Advertising fundamentals” in the range of 90-100 scores, and 28% of the respondents – in the range of 82-89 scores (see Figure 4).

By the results of the festival, how successful would you have repeatedly passed the “Advertising Fundamentals” exam?

- A 90-100
- B 82-89
- C 81-75

Figure 4. Student’s answers to the question about the results of passing the exam in the subject “Advertising fundamentals”.

Upon conducting the experiment in practice-oriented learning of animation technology in the course of study of the subject “Animation in advertising”, the Institute of Journalism has added this discipline to the general list of optional subjects, since 150 statements from students of other specialties who are planning to study this discipline for 2018-19 years.

The employers’ demand for the graduates of the Institute have increased. Students who have successfully completed the animation course “Animation in advertising” have been invited to take industrial practice at public and private institutions, where they created animated videos for customers.

After the animation festival, all creative works of students in a form of animated educational videos in fundamentals of advertising have been used for focus-group interview (discussion) with experts.

In June 2018, several focus-group sessions were held with students who study the educational programmes of the specialty 061 “Journalism” (18-20 years), teachers of advertising (30-45 years), listeners of the programme “Social media manager” (35-50 years) on the basis of the Institute of Journalism of the Kyiv Boris Grinchenko University. Focus-groups consisted of 6-8 respondents of different sex and age categories.

The focus-group study programme consisted of defining goals and objectives, a working hypothesis, and a focus group-scenario. The purpose of such research has been to ground the changes in forms and methods of teaching in higher school. Among the main sources are to discover innovative forms of teaching (animated video lectures) for assimilation of the theory and practice-oriented model in higher school. The assumption as to the prospect of introducing animation video lectures in the process of teaching (for example, in 3-5 years, 30 per cent of theoretical material will be transformed into animation format) has been used as a working hypothesis. The focus-group scenario includes discussion of the following issues: What method of memorising information is the most effective for you? Can animated video lectures displace traditional lectures at higher school? What conditions (opportunities) are available at the University for creating animated video lectures?

Therefore, the research materials obtained as a result of focus-groups activity have shown the following results:
1. The majority of experts (90%) believe that animated educational lectures are not only an alternative to traditional instruction but also an effective method of teaching theory (or science) at higher school.

2. Introduction of such educational materials of a new generation is the University’s competitiveness in the Ukrainian educational service market.

3. Animation lectures are one of the most effective means for organising teacher’s pedagogical activity as well as an element of a distance learning course. 

4. Nearly 70 per cent of expert lecturers have shown readiness to study at the new centres of competence in order to transform their theoretical achievements into a new animated format; to become a digital-literate in accordance with the requirements of the modern multimedia era.

The results of the experimental study of animation technology at the Centres of competence are: improving the quality of teaching the discipline “Animation in advertising” and its clear structuring according to types of work performed at the centres; creating the industrial practice close to the professional environment; more active use of interactive teaching methods; implementing the optional discipline which has been properly tested in educational process; possibility to attract highly skilled specialists-practitioners to educational process through their work at the centres of competence; mastering various professions, such as scriptwriters, artist-illustrators, animators, fashion designers, sound engineers, operators, speakers, art directors.

IV. CONCLUSIONS

Thus, as a result of the experimental implementation of a practice-oriented model of studying animation technology within the discipline “Animation in advertising” the students:

1) obtained in interactive form theoretical and practical knowledge about the purpose and potentialities of Adobe Animate CC program, main elements of its interface and means of creation of animation within the program; stages of video creation, types of animation, properties of major graphic formats; professional skills in multimedia;

2) learned to create and modify images, edit objects, create animated videos and apply different effects at the same time, use drawing tools, import animated content, write, edit and test scripts, use Adobe Animate CC to create interactive images, proper animation and animation videos, transformations, navigation, various flash presentations and proper presentations, use main software, technical and application computer animation systems, work in a team;

3) created their own animated educational video up to 5 minutes and presented it at the student’s festival in advertising, compiled their creative portfolio;

4) formed the project, informational, communicative and analytical competences, digital competence of the future specialist, laid the foundations of professional media literacy in visual communications.

The prospect of further application of such a model may be:

1) opening of new centres of competences and expertise, in particular, an information visualisation centre or educational animation studio whose purpose is to teach to create competitive animation combining multiplicative traditions and modern computer technologies, as well as to open one’s own recording studio; opening one’s own recording studio;

2) realisation of the potential of centers of competence, i.e.: production of animated content in different techniques, sounding animation videos in English, creation of joint projects with other higher educational establishments, organisations and institutions not only in Ukraine but also abroad, creation of animation products for participation in exhibitions, contests, festivals, conducting training seminars and introducing courses on creation of animation products.

We believe that the proposed model of practice-oriented study can be implemented on the basis of secondary school, which can be a continuation of our experiment.

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AUTHORS PROFILE

Victoria Ivashchenko is the Head of the Terminology Commission under International Committee of Slavonic Scholars, Doctor of Philology, Senior Researcher, Professor of the Department of Publishing at the Institute of Journalism. She was the chair of the Scientific Terminology Department at the Ukrainian Language Institute at the National Academy of Sciences of Ukraine in 2010-2016. During that period she was in chief of the Scientific and Methodic Committee on the Ukrainian Language at the Scientific and Methodic Council on Education at the Ministry of Education and Science of Ukraine. In 2013-2015 she became the member of Dictionary Council at the Ministry of Education and Science of Ukraine. V. Ivashchenko have more than 140 papers. Her areas of research interest are terminology, phraseology, lexicography, and cognitive linguistics.

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