IT club educational technologies for creative individual development in digital age

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Abstract

This article is aimed at identifying the influence of IT clubs on the development of students' creative abilities. **A**s a research method, a questionnaire survey was used to identify the role of modern IT forms of artistic activity in the development of students' creative abilities. The study was conducted on the basis of Russian universities among 265 students. **T**he article describes the development of modern IT forms of artistic activity in the digital age. It is revealed that the main motivations for students to visit IT clubs were: learning new things, continuing their self-improvement, transforming the fantastic and creative into real, in-depth study of previously acquired knowledge and their improvement, obtaining skills that will be useful in the future, gaining experience in creative activities, attending classes together with friends, new communication, useful pastime. The study determines that the goals of teachers coincide with the mission of creative IT clubs: to train creative engineers who could invent and implement new technologies that would have no analogues in the world, to teach and prepare a child for his/her future occupation.

Keywords: creativity, learners, motivations for developing abilities, creative space.
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1. Introduction

In modern society, the information and communication culture rebuilds the social practices of information communication by influencing thinking and behavior. Thus, social practices on the Internet are enriched with information and cultural baggage that determines the specifics of the practices. As you know, social practices are focused on another person, in this case, an abstract other-the Internet community. By accessing the Internet, the user automatically agrees to the unspoken rules of its use. Therefore, on the other hand, in addition to the socio-cultural baggage, social practices on the Internet are determined by these generally accepted rules (Fortin, Ignatiev & Voronina, 2021). This mainly can be applied to the situation where the Internet is used as a means of communication (Belinskaya & Zhichkina, 2000; Cherdymova, 2010; Tikhomirov, Babaeva & Voiskunsky, 1986; Asmolov, Tsvetkova & Tsvetkov, 2004; Kvon et al., 2019; Merkulova & Bogoliubova, 2017; Bayanova et al., 2020). One of the features of modern culture is becoming polyphonic nature the desire for individualization, challenge and shocking, creativity in general. The introduction of Russia to global trends has also increased the interest in digital creativity and the development of creative individual in IT clubs (Chugunov, 2002; Bandura, 2000; German, 2008). Various forms of artistic activity, or, as a number of researchers call them, forms of postmodernism and digital art, have successfully taken the place of one of the most popular areas of modern art, along with photography, graffiti, and new drama. Not a single creative meeting, not a single festival dedicated to art activity takes place without them (Andreeva, Golubkova & Novikova, 1989; Lotman, 1977; Florida, 2007; Kagan, 2003). Of course, young people have a special interest in digital art. Many of them are acquainted with them on foreign trips and seek to transfer this experience to their homeland, to realize their creative ideas and plans in them, and the venues of modern forms of artistic activity become a place of communication for young people. This fact is of particular importance in connection with the problem of leisure and the motives for students to visit IT clubs (Ikonnikova, 1998; Khanmurzina et al., 2020; Kravchenko, 2004; Mudrik, 1984).

In the conditions of low motivation of students for cognition and creativity, the task of improving additional educational programs, creating creative spaces for IT clubs and forms for the intellectual development of children and young people, their training in creative programs becomes particularly relevant. Of course, the process of including various forms of artistic activity in the cultural space is more active in the major cities of Russia. Nevertheless, gradually the sphere of their influence and interest in them expands. Modern culture study specialists contrast such social forms of cultural existence as elite and mass. It is generally assumed that this contrast is taking shape in the digital age (Wasserman et al., 1997; Asmolov, Tsvetkova & Tsvetkov, 2004; Bayanova et al., 2020). The development of industrial production and capitalist relations, the improvement of material production and the increase in the literacy of the population that does not belong to the elite, as well as the comprehensive massovisation of life, affecting all its spheres, such as economy, politics, management and communication of people, made possible mass consumption of works of art culture in the twenty-first century (Merkulova, Voronina & Tretyakova, 2018). Thus, until quite recently, it was considered that elite culture is a high culture created by the intelligentsia, dedicated to the spiritual, deeply moral aspects of human existence. In contrast, mass culture is a simplified, entertaining culture that does not represent an artistic value (Glozman, 2002; Kendo, 2000; Teslenko, 2001; Kostina, 2005).

In the culture of the digital age, the situation begins to change and the dividing line between mass and elite cultures is erased, and the mutual penetration of one culture into another begins. This was made possible by the development of information technologies, the development of technology, means of communication, commercialization, and so on. For example, the music of Mozart in the Philharmonic hall remains a phenomenon of elite culture, as well as a melody in a simplified version, sounding like a

mobile phone call signal-a phenomenon of mass culture. The process of blurring the boundaries between mass and elite culture occurs, affecting various characteristics of art (Morras, 2003; Chudova, 2000; Ikonnikova, 1987; Lopanova et al., 2020).

Today, one can see the borrowing of stories from elite culture by mass culture. A typical example of this is the appeal to the problems, plots and heroes of ancient times and peoples. Prometheus, Oedipus, Antigone, Odysseus and Agamemnon, Medea and Helen were close, interesting and extremely necessary for solving many vital problems, collisions and conflicts of our time. That is why today the television screen is full of both artistic and animated films dedicated to the ancient era. Another sign of the blurring of the border between elite and mass cultures is the transition of the elite space into the mass, and vice versa, the mass into the elite (Basilaya, 2002; Radovel, 2002; Yakovenko, 2002).

Thus, the relevance of this article is determined by the study of one of the most pressing issues of modern society, such as the development of a creative personality in the digital age. An innovation in solving this issue can be the introduction of students to cultural life through various forms of artistic activity. These forms are becoming increasingly popular in Russia, not only because they are interesting in themselves, but also because they reflect the needs of modern people and modern digital culture in general.

2. Materials and Methods

The rapid social, political and economic development of our country creates the need to increase the number of IT specialists and today more than ever needs competent and creative specialists.

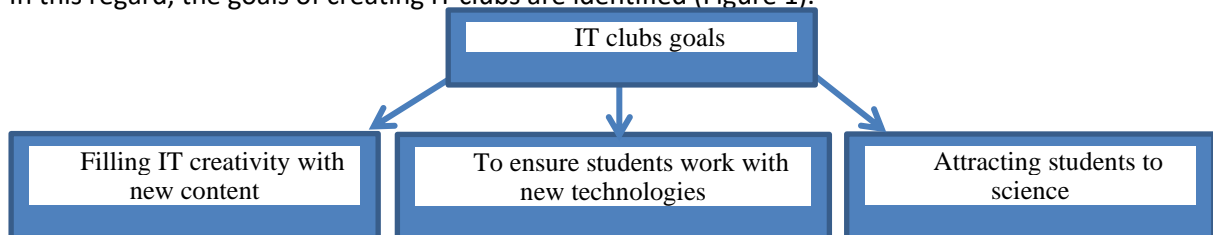In this regard, the goals of creating IT clubs are identified (Figure 1).

Figure 1. IT clubs Goal

Actually, in all spheres of the economy, it needs these specialists. This is a profession of the future, interesting, promising, highly paid, giving maximum opportunities for self-realization, combining a technical IT beginning and creativity.

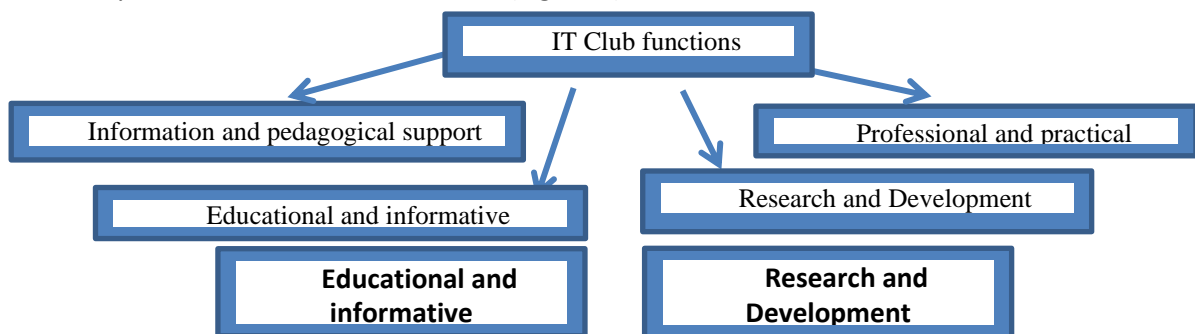The study shows the functions of IT clubs (Figure 2).

Figure 2. IT Club functions

To identify the motives of students to engage in creative activities, the following questions were asked.

What kind of activity is a good combination of creative and technical abilities?

What is the reason for the interest in the IT field? What was the reason to start working in the IT field?

Who instilled in you an interest in the IT field? Did it influence your choice of IT classes?

Are your parents interested or not interested in your IT studies?

Do your parents support or do not support your IT activities? If it is so, how then? Are they interested in your progress?

How do you think your knowledge gained in the IT field is needed in ordinary everyday life: at school, at home or somewhere else?

Who do you see yourself as in the future? By attending classes at IT clubs, do you want to become a great specialist in this field in the future, or do you just like doing it?

Why, in your opinion, do other students attend your IT classes?

Can the knowledge gained in the creative club, in particular, IT classes, be used in life?

How long have you been involved in the creative club? Do you visit it regularly or occasionally?

If it is long ago, what do these classes bring you?

How do you plan to use the acquired knowledge and skills in the future and where?

Do you think it is better to study in a creative club according to a schedule, according to a certain program? How often? Regularly or occasionally?

Do you think that only with regular visits to classes in the creative club can you achieve good results in competitions?

The considered set of questions serves as a basis for considering the educational potential of IT clubs in the development of a creative personality.

3. Results

Because the motive is understood as the force that motivates a person to realize their interests, it was important to find out what caused the students' interest in the creative club and in the IT sphere, in particular, and what prompted them to come to classes in IT clubs. Some students noted that they had previously been passionate about designing and classes in creative clubs were a continuation in their development in this direction (13% of all students' responses). Others (16% of the number of respondents) said that this direction attracted by its novelty, relevance, that robots and creativity were the future, having watched enough science fiction films, with the use of new technologies, they decided to bring it to life. However, girls (16%) approached this issue more practically, more closely to life and saw creatively created robots as their assistants in everyday life.

Thus, students named several motives that prompted them to come to classes in the creative club: the continuation of their self-improvement; the transformation of the fantastic and creative into the real; the use of a robot in everyday life.

Parents explain their children's interest in the IT sphere with the following motives: classes in the IT club have changed their children for the better, they have become better students, they have become more organized; they have learnt to organize leisure, free time, "so as not to wander around the streets". Parents named many more motives than students did. Most likely, this is due to the expectations of parents to get good results, with the fact that they are optimistic for them. Therefore, all parents actively support their children in their endeavors. The support of the parents is obvious, as they are present at the competitions together with the children. Parents themselves admit that it is not always possible to observe the success of the child. Some parents drive their children to class.

As for teachers, they believe that the motivating factor for students to attend classes in the IT field is winning competitions, team spirit.

Taking into account the above-mentioned, we can conclude that both students and parents called the motive for improvement and development. At the same time, parents named more motives than students and teachers. This is because parents make excessive demands on their children. The child is in a situation where he/she is forced to realize the inflated ambitions of his/her parents. As for the purposes of visiting creative clubs, we received the following results.

Some of the children (36% of all respondents) see the goal of obtaining the skills of an engineer; this is a design engineer, a software engineer or just an engineer. Other students (27% of all respondents) and among them there are 13% of girls, they also have a goal to become good creative people, but they would like to continue the profession of their parents. In addition, quite a few of the children do not have dreams, and go to classes just for the company. (3% of the respondents).

The rest of the students are engaged in creative clubs for: obtaining the profession of an engineer; the desire to be as parents, to continue the dynasty of engineers; to meet new people, chat with new people, just for the company (Figure 3).
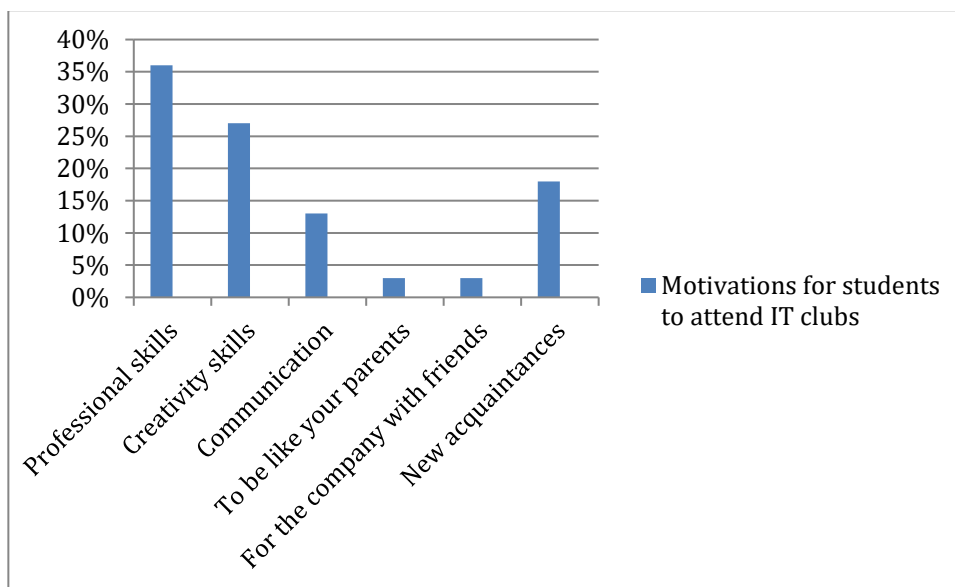

Figure 3. Motivations for students to attend IT clubs

As for parents, they set ambitious goals for their children and for themselves (65% of all respondents): with the help of classes in IT clubs, they would like the child to enter a higher educational institution. Other parents decided that classes in IT clubs would motivate their children to study

mathematics, physics and other subjects in a more in-depth way, without coercion, using creativity (23% of all respondents).

In addition, 13% of parents say that their children spend their time usefully at the computer and on the Internet, and do not sit at computer-table and do not play computer games.

Thus, the parents have built up their goals: for the child to enter a higher educational institution; for the child to study in-depth school subjects for a good pass of the unified state exam; for the child not to engage in harmful computer games.

The goals that teachers face coincide with the mission of creative clubs, namely, the training of creative engineers who could invent and implement new technologies that would have no analogues in the world, and therefore teach and prepare the child for his/her future profession.

Teachers also note that classes in the IT club as a subject in the educational process should not be introduced, since it is quite specific and not all students have creative abilities. However, as an elective it is quite enough. Other teachers have a vision of introducing IT clubs into the educational program, referring to the huge popularity of the idea of the need to train engineering personnel starting from school. In addition, one more opinion about the need or not the need to introduce classes in an IT club in an educational institution, here the opinion is almost the opposite, namely, even if they are introduced as a subject, not everyone can afford it, since the subject requires material or capital costs (purchase of special equipment, parts) and personnel training.

Based on the presented positions of teachers, creative IT clubs were created to solve the problems of socialization - training of future personnel, popularizing that the robot is now needed not only in technology, but is also very often used in various directions today.

Thus, we can conclude that the goal of entering a higher educational institution is set by both students and their parents, and teachers, respectively, support and help in this. Only a small proportion of parents and students who believe that this is a good leisure time and do not set special goals for themselves, and if they do them, they are not associated with a creative IT club.

It is quite difficult for the students themselves to appreciate fully the experience gained in classes in creative IT clubs, however, more than half of the students (53%) note that they have become more organized, have learned to defend their projects and not just defend, but also justify, and have learned a lot of new things.

4. Discussions

Students' acquaintance with creativity and art can go in different ways. For example, from the moment of its existence, the museum as an institution belonged to an elite culture, the main function of which was to preserve, pass on to the next generations the masterpieces of great masters, folk art, tell about history, and so on. Often, to learn about something in a museum, you had to come to it with a certain set of knowledge. In addition, at the beginning of the twenty-first century, an incredible thing happens: there are museums that no longer refer us to something great, high, eternal (Tyurikov et al., 2018). Museums of pirates, horrors, and instruments of torture are being created. The museum has a new function that coincides with one of the functions of mass culture-entertainment. In addition, the space of the museum was reoriented and began to let in something that could not have been there before, already based on its definition. An example of this is the creation of exhibitions of graffiti, which, contrary to its essence (graffiti is street wall painting), begins to be created on canvas and displayed in the museum hall, thereby attracting fans of this type of art, which is primarily related to mass art, to the

elite space (Voronina, Ignatiev & Merkulova, 2019). In this regard, the very methods of representation are changing. An example of this is the night in the museum, when a completely unprepared audience comes to these halls. For many, the main purpose of visiting is not educational, but entertainment, getting some new sensations.

This is not the case with elite culture. Increasingly, the masterpieces of world art penetrate into our daily lives. For example, using marketing technologies. The Russian Museum in St. Petersburg displays copies of the masterpieces of its collection on the street. All passers-by can see them, just as if passing through the street, as you can see a spray-painted wall. The penetration and mixing of the elite and mass cultural space has also been made possible by the development of mass media.

Today, people have the opportunity to see and hear a symphony orchestra concert, performances, and ballet from the comfort of their homes. Previously, to be acquainted with these types of art, it was necessary to observe a certain ritual: buying a ticket, choosing the appropriate weekend costume-a ritual accompanied by a number of prohibitions, such as a ban on being late, a ban on eating during the action and on making noise. Now, thanks to television, radio, and especially the Internet, it is possible to choose when and from what moment we watch or listen to a particular performance, while we can talk, eat and, without hesitation, express our opinions aloud. No less important is the fact that after the concert, we need time to digest it, but today, thanks to the media, you can switch from opera to concert at the touch of a remote control button. Thus, it becomes another example of the fact that elite art from the situation of the holiday breaks into everyday life.

5. Conclusions

In the digital age, the requirements for cultural objects, for the perception and study of objects of art and culture play an important role in the cultural life of every person, giving it dynamism. First, there are many alternative forms of traditional art. Secondly, alternative ways of introducing people to art ensure that people are included in the orbit of the modern cultural world. Third, they often have a polemical fervor and, thus, attract attention to social problems, much more effectively than words.

Students name several motives that prompted them to come to classes in the creative club: the continuation of their self-improvement; the transformation of the fantastic and creative into the real; the use of a robot in everyday life.

Parents explain their children's interest in the IT sphere with the following motives: classes in the IT club have changed their children for the better, they have become better students, they have become more organized; they have learnt to organize leisure, free time, so that they do not wander around the streets. As for teachers, they believe that the motivating factor for students to attend classes in the IT field is winning competitions, team spirit.

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Thus, the parents have built up their goals: for the child to enter a higher educational institution; for the child to study in-depth school subjects for a good pass of the unified state exam; for the child not to engage in harmful computer games.

The goals that teachers face coincide with the mission of creative clubs, namely, the training of creative engineers who could invent and implement new technologies that would have no analogues in the world, and therefore teach and prepare the child for his/her future occupation.

The Internet has become a source of information for students about creative IT clubs. For adults, the source of information was the child himself, who asked to attend this event, the main motive for this category of parents was the further development of the existing creative abilities of the child and its improvement for further development.

Students who are passionate about cognitive and creative search will eventually contribute to the development of innovative technologies, science and production (Shaidullina et al., 2018).

Today, there is an increasing need to increase motivation to choose engineering professions and create a system of continuous training of future qualified engineering personnel with academic knowledge and professional competencies and creative abilities for the development of priority areas of domestic science and technology.

They allow you to combine the scientific component in the form of technological developments, the production component in the form of the introduction of these developments into mass production, the educational component in the form of targeted and high-quality training of future qualified personnel, providing scientific design of technological and creative IT developments and their introduction into production.

Creative IT clubs contribute to solving the problem of developing technological competence at different stages of life and increasing motivation to choose engineering occupations, supporting personal and professional self-determination, and creative thinking of children and adolescents in a digital society.

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