Children's Magazines in the Media Education System (Content Audit)

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Abstract

The article is devoted to the problem of involving children of preschool and primary school age in the sphere of media education. How does the consumption of media content affect the formation of a reading culture and the related interest of 7-12 year old children in knowledge? This aspect, in our opinion, requires careful study and reflection. In the existing studies of media preferences of the new audience, as a rule, the focus is on the age segment from 12 to 20 years and older. The peculiarities of content consumption by younger children remain practically unexplored, while practice shows that "immersion" in the media environment and contact with gadgets in a child begins much earlier – even at an unconscious age, that is, from one and a half years.

Particular attention in this article is paid to such a resource of media education as children's magazines that offer new, entertaining, popular science content and a special digital reading model. This article presents the results of a study whose purpose was to determine the key characteristics of the functioning of popular science magazines for children in the digital environment, taking into account the changed practices of media education and media consumption.

Keywords: media education, media consumption, children's magazine, new audience, popular science content.

1. Introduction

Psychologists say that the computer has a positive effect on children, captivating them with the novelty of the process of mastering technical skills, helps them learn, develops imagination, attention, and memory. "A new race is entering the scene – digital natives, whom hi-tech has surrounded since infancy," says E.I. Petrova, an American psychiatrist, professor at the University of Los Angeles, director of the Gary Small Research Center on Aging (Petrova, 2013). This statement does not contradict the point of view of the famous Soviet scientist L.S. Vygotsky on the problems of the cultural development of the child: "In the process of its development, the child learns not only the content of cultural experience, but the methods and forms of cultural behavior, cultural ways of thinking. In the development of the child's behavior, therefore, two main lines must be distinguished. One is the line of natural development of behavior, closely connected with the processes of general organic growth and maturation of the child. The other is the line of cultural improvement of psychological functions, the development of new ways of thinking, the mastery of cultural means of behavior" (Vygotsky, 2005). The resource for the formation of culture, including readership, is children's digital magazines that offer new, entertaining for the child, popular science content and a special reading model. Numerous studies prove a direct connection between the success of a child's personality development and the volume and

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topics of reading. There are two types of reading: reading as work and creativity (Asmus, 1968) and reading as recreation. Reading a digital popular science magazine is, of course, labor and creativity, since an electronic magazine includes content, video, and a variety of multimedia technologies that attract children. The game component of multimedia texts, according to culturologists, is one of the ways to draw attention to content. Today, many children's popular science magazines are published in Russia with essays on history, travel, nature, art, successfully combining playful and educational materials. Through reading essays, children perceive the matrices of the cultural code, folk traditions. An important aspect of the popular science discourse of children's magazines is educational content, the formation of interest in gaining knowledge.

The study of children's digital popular science magazines is closely related to the development of criteria for differentiating their media educational potential, which necessitates the acquisition and analysis of empirical data on the functioning of this segment of online journalism in the aspect of information preparation of the children's audience for life in modern society.

2. Materials and methods

The problems of media literacy education are reflected in the works of A. Fedorov, who is a forward among researchers of this topic. In connection with the emergence and penetration of effective digital technologies into all areas of communication, the semiotic basis of the media text has changed, an integral textual continuum has arisen, the complex perceptual nature of which requires detailed study using appropriate identification methods. This is exactly what was reflected in the approaches of Umberto Eco and Cary Bazalgette "based on such key concepts of media studies as *media agencies, media / media texts categories, media technologies, media languages, media representations* and *media audiences*, since all these concepts are directly related to ideological, market and structural-content analysis aspects of media works" (Fedorov, 2021).

When solving the problems of media education, it is necessary to consider aspects of analytical practice as a priority. A positive result can be achieved only by giving priority to the "analysis of language, expressive means of cinema, radio, press, photography and television" (Fedorov, 2009).

An important area of research is media consumption. Existing studies of the characteristics of media consumption of the younger generation focus mainly on youth and adolescent audiences. The general topical problem of media consumption as a routine social practice in Russia is presented in the study by A.A. Komarova (Komarova, 2018). One of the latest research is a scientific project led by D.V. Dunas. The main results are reflected in the collective monograph of young scientists (Dunas, 2021). The authors come to a very important conclusion that social networks today have become a medium for self-expression, self-identification, self-realization, self-development - everything that a person immersed in society could achieve in real life under conditions of group communication.

Popular science children's magazines do not use the potential of the digital environment to interact with the audience and are still focused more on the release of paper versions of publications. Long-term observations of the content of children's publications made it possible to formulate just such a hypothesis.

Two stages of the study have been developed. The first stage consisted in the formation of a sample of publications. We relied on several criteria in the selection of empirical material. The logic was as follows:

- the children's edition should contain mainly educational content;
- media in any years became the winner or laureate of the All-Russian Children's Press Festival *Magic Word* or has other awards, noted by professional organizations;
- we reviewed a selection of publications *For Children and Teenagers* as part of the Russian Post subscription campaign, in which the search area was then narrowed down by the tags *For Children and Science*. In parallel, during the monitoring, the top *Popular science publications* was used.

Thus, in general, 21 children's publications were selected for further analysis: *Young naturalist*, *Quantik*, *Class magazine*, *Chitayka*, *Young erudite*, *Luchik*, *Ponimashka*, *Think*, *Our Philippok*, *Copernicus Snail*, *Cherdobryak*, *Siberian*, *Schrödinger's Cat*, *Svirel*, *Azure*, *Flute*, *Children's Encyclopedia*, *Klepa*, *World of Technology for Children*, *Young Technician* and an appendix to the magazine *Why?*.

At the second stage, we audited the websites of children's publications, as well as their pages on social networks, according to a certain algorithm. Data coding made it possible to convert indicators into a matrix. The audit parameters are divided into three blocks: concept, audience, content. In the

concept section: the name of the journal, the address of the website and communities of the publication in social networks, site evaluation – landing/business card or full-fledged media, specialization, concept or mission of the publication (is it possible to distinguish a clear mission, difference from competitors, benefit for readers), heading, description of accounts in social networks in the profile – whether the mission and the main idea are the same on all sites. Block audience: identification of the target audience by the editors, age of the audience, data on the audience composition according to *Pepper. Ninja* (if the community on *VKontakte* has more than 1 thousand subscribers), the number of subscribers in social networks (*VKontakte*, *Odnoklassniki*, *Telegram*), traffic estimation using Similarweb tools and https://a.pr-cy.ru/. Section content: description and evaluation of content on the site and in social networks, achievements, educational projects.

At the third stage, we analyzed and interpreted the obtained data.

3. Discussion

Buck Meredith writes about the origin and development of children's media culture. The researcher attributes its appearance to the era when the Christmas editions of Boy's Own Paper began to include supplements in 1881 – pages with paper toys that boys could cut out and fold. These toys had various optical effects. Such kaleidoscopes, stereoscopes, the author calls the "new media" of that time. They caused the same anxiety in parents as they do about the addiction of modern children to the TV screen or tablet (Meredith, 2020; Steensen, 2021).

Today, concerns are raised not only by dependence on gadgets, but also by the Internet environment, which affects the development of children's media culture. Alexander Monea talks about children accessing obscene content and content deemed harmful to minors. Society is responding to this with the adoption of child protection laws, the requirement to install online filters in schools and libraries (Monea, Blue, 2022). But to what extent can the problem be considered solved? American children's TV researchers note that violence in prime-time children's television has not changed in any meaningful way in the last twenty years (Martins, Riddle, 2022). Another concern is associated with online games that cause negative consequences – aggressive behavior, depression and health complaints (Hjermitslev, 2019; Wright, Wachs, 2022;).

In recent years, foreign researchers are increasingly talking about the participation of the children's audience in the creation of digital media products, with the help of which the younger generation will improve their media literacy and develop media culture. For example, young children can and should even be involved in collaborative app development (Abbas et all, 2018). Scientists have begun to realize that adults can no longer make decisions about technology needs and the needs of children without the participation of children.

The authors of the article "Digital Design With Children in Mind" go further and continue to develop the thesis about the role of the joint creativity of a child and an adult at the design stage of any project. This also has an impact on the design of digital products, which will be clearly focused on the needs of children, as well as allow potential risks to be anticipated and reacted to them reflexively (Chelvachandran, Michael, 2022). All this scientists call the concept of responsible innovation. The need to introduce such a concept is indicated, for example, by a study by a group of experts who questioned that children's "educational" applications have educational value (Molek-Kozakowska, 2017; Meyer et.all, 2021).

The digital environment as an educational space is increasingly becoming the object of research. For example, Asimina Vasalou wrote about digital games that contribute to the primary education of children (Vasalou, 2022). Ioli Campos tested 50 children and explored the games that can be hosted on digital platforms to expand children's news literacy education (Campos, 2021). And digital social robots operating in a sensory environment can even provide therapy to autistic children (McBride, 2020). The social media landscape that is being used to distribute educational content has been explored by John A. Bateman. He studied the nature of "digital media" in terms of semiotics (Bateman, 2021). The influence of social networks on adolescents was considered by a group of researchers, who came to the conclusion that the digital environment with visual images and media are becoming an important source of adolescent socialization (Devos, 2021).

Concepts for children's magazines. The specialization of children's educational publications from the sample, based on how they identify themselves on websites, can be divided into:

- popular science magazines – 38 % of children's magazines (8 media). Of these, 3 journals are ecological and specialize in nature, 1 defines itself as historical, about science and technology – 2, popular science bookazine – 1;

– news digest – 1 magazine;

– literary magazine/almanac, including publications of a creative orientation – 5;

– universal journal – 1;

- the niche or specialization of the publication in 6 media is not indicated (28 %, magazines call themselves "entertaining", "informative", "for the curious").

Summarizing the results, we can conclude that educational publications for children are divided into universal and specialized, that is, thematic, among which, in turn, are popular science (environmental, historical, technical) and literary (creative). Only one media (*Think* magazine) has defined itself as bookazine, a symbiosis of book and magazine, but this term can also be applied to some other children's publications (for example, *Copernicus the Smail*, *Children's Encyclopedia*). They combine an interesting visual, photographic material, an easy-to-read layout and content that does not lose relevance for a long time – these are such peculiar illustrated books.

As a rule, websites of children's publications have a section "Our story" ("About us", "About the project", "About the magazine", "About the publications" and other variations), which contains the history of the development of the publication, indicates important milestones, tells about the conceptual features of the journal. Usually this block is in a prominent place and attracts the attention of those who want to get additional information about the media. Such sections were found in 14 journals, and none were found in 7. Approximately a third of the publications from the sample (6 media) publish on the front page, literally in one paragraph, up-to-date information about the everyday life of the journal - formulates conceptual features (type of journal, what it is about, what topics the content is devoted to), reader portrait (for whom), sometimes competitive advantages are listed.

In rare exceptions, edition data is placed in such a way that it is generally difficult to find it. For example, on the site of the magazine *Our Filippok* all the headings and sections of the site are in the basement – it is very inconvenient to search for them. We find information about media only in the section "For Parents". In addition, the concept of the publication has not been formulated anywhere.

The magazine *Young Erudite* does not have its own standalone platform or community in social networks, and scarce information about the publication can be found on the website of the publishing house Lev in the Journals section. On the same resource there is a link to a group on VKontakte, but the content in the community is generally devoted to the products of the publishing house, and is not focused on the materials of the Young Erudite.

We return to the description of the concept of children's media. Our audit showed that most of the information does not contain any specific characteristics of the journals and the site in terms of content, editorial principles, audience. For example, the relevance and entertaining, accessible form of publications are often mentioned, the goal is to cultivate love for the Motherland and nature, competitions, communication with the audience, crossword puzzles, a balance between cognitive and developmental information, answers to questions from readers, and so on. All this is not a competitive advantage today, neither in traditional media, nor especially on digital platforms. Let's illustrate the statements with random excerpts from the descriptions of the magazines:

- Before you is a monthly magazine for inquisitive schoolchildren *Quantik*. The journal is dedicated to entertaining questions and problems in mathematics, linguistics, physics and other natural sciences. You will learn a lot of interesting things about the world around you! (*Quantik*);

- The path to the fascinating world of books for your children (*Chitayka*);

- The materials and tasks of the magazine develop curiosity, intuition, imaginative thinking of the child, and most importantly, unite the family for reading and fascinating study of the world. *Luchik* is a meta-subject magazine that enables schoolchildren to learn in a new way! The magazine interestingly talks about literature and art, physics and mathematics, history and geography (*Luchik*);

- The magazine contains popular educational materials on various aspects of natural science and ecology, focused on the curricula of schools, as well as literary and artistic works - stories, novels (*Svirel*);

– Each issue of the *Class magazine* contains the most relevant information for children: from cartoons, computer games and children's films to scientific discoveries, sports, technology (*Class magazine*).

We found only one publication whose website specifically talks about the digital resource and its features, and not about the paper version of the media – this is *Ponimashka* magazine. We have retained the spelling and punctuation of the authors, but we emphasize that carelessness in the

design of thoughts as a whole reduces confidence in the publication and its promises to prepare the reader for school.

In 5 out of 21 magazines, there is still a detuning from competitors. The main page of the site of the magazine *Think* lists the benefits for users: benefits and pleasure, the best authors, great artists and designers. The editors especially highlight the concept of STEM, which it deciphers for readers as follows: Science, Technology, Engineering, Mathematics. But in fact, the features of the STEM approach are not disclosed in any way in the presentation part. Nevertheless, the Think magazine even presents a strategy for promoting its media product. The editorial publishes for parents (potential subscribers and people who influence the child's mediation) the key advantages of the publication: alternative (the magazine is supposedly able to "pull the child out of gadgets and empty meaningless vigil in social networks"), multi-subject (the editorial office promises to satisfy the request for "to make it interesting for a teenager to immerse himself in physics, chemistry, biology, mathematics, geography and other school disciplines"), search and cognition ("Do you want to show him that his knowledge is not limited to the school curriculum?"), reliability (the editors say that "scientists, teachers, journalists who popularize science write for the magazine, and experienced editors make the texts understandable and interesting"), the quality of design and graphics ("printing is many times greater than the possibilities of illustrations from the Internet"), recognition ("the magazine is read all over Russia and in 16 other countries of the world").

The *World of Technology for Children* magazine focused on the patriotic education of the younger generation and introducing children to the fascinating world of science and technology, formulates five reasons to subscribe.

The concept of the *Cherdobryak* magazine is clearly and in detail built. The editors explain their vision of why children's magazines are needed, why such a name, who drew the logo, how *Cherdobryak* differs from other magazines, what texts are included in the publication.

Finally, Schrödinger's Cat focuses on the man of science and science.

Further, our audit showed that for 76.2 % (16) of publications, the site is a landing page, a business card, and is a representation of paper media on the Internet. Almost everything on such business cards is designed to attract people to the subscription campaign of the Russian Post. Sometimes one gets the feeling that the main function of the sites is archival, because for the most part archives of individual issues (in pdf) and texts are placed there as demonstrative materials, there is little or no actual journalistic content. In 23.8 % (5) sites are "full-fledged" media, content is updated regularly, editorial offices try to build communications with readers, establish feedback, use UGC content.

Rubricating. The rubricating as a whole is subject to the general logic and themes of the journals, the headings on the websites partially coincide with the heading system in paper versions. The minimum number of headings in journals is 6-7, more often - more than 10.

They have simple names, are easy to remember, but at the same time, we can say that some recognizable sections that can attract the attention of a new audience are absent with rare exceptions. As an example, let's imagine the headings in the *Ponimashka* magazine: Logic, Counting, Speech, Reading, Motor skills, Master classes, Facts, Psychology, Health.

Social networks. The audit showed that a third of the analyzed publications (33 %) do not have communities in social networks, although today the development and strengthening of communication with the community, a loyal audience is an integral part of the work of any editorial office, both adult and children's media. With social networks, the rest of the magazines are also ambiguous – many publics are abandoned, the content is not updated. For example, the last entry in the VK community *Copernicus Snails* was made in 2019, since January 2022 the content in the social networks of the magazine *Young Technician* has not been updated, the last post with the announcement of the *World of Technology for Children* was released on March 12, 2022, rarely – 1-2 times a month – posts *Class magazine*. The *Klepa* magazine on VKontakte is not presented in the form of a community, but is registered as a personal account, which makes it somewhat difficult to interact with readers (there are no options that public registration gives). There are no posts with materials on the wall, some congratulations are posted and it is impossible to understand what the editors want to say. The magazine *Our Philippok* also operates in the same network. The regular content in the public edition consists of a post with an image of the magazine page, which is sometimes accompanied by text. Sometimes pdf versions of journal issues are posted. And most importantly, comments are disabled.

The most common platform for children's magazines is *VKontakte* (communities in this network are run by 15 media), 4 publications have further Telegram, 2 magazines are represented in *Odnoklassniki*.

In general, we can conclude that the description of magazines in social networks corresponds to what is indicated on the websites of magazines. However, there are no details about how the publication sees the reader in this social network, what communication format it prefers, whether it expects user-generated content and in what form.

Of all the children's publications we analyzed, we can distinguish 6 whose social networks are productive, there is a regular posting of materials, there is interaction with the audience, as of the end of July 2022.

Quantik is a very active public on *VKontakte*, the content is diverse – announcements, puzzles, contests, videos with experiments, audio recordings of a meeting of a radio club. Several threads in the "Discussions" section, the most active discussion with over 300 comments in the "Ask Us" thread. Community monetization occurs through the sale of related products. The magazine's Telegram channel is also active and has 1370 subscribers around it.

Ponimashka develops media pages in *VKontakte*, *Yandex.Zen*, *Telegram* and *YouTube*. 14 thousand subscribers have subscribed to the video blog, the editors have launched the series. The content on social networks is chosen mainly to be engaging - these are contests, puzzles, videos, "question-answer".

Think is most active on *VKontakte*. The community publishes engaging formats: tests and quizzes, contests, videos. There are links to the archive of the magazine on the site and posts-announcements of issues that have already become traditional for many children's magazines. Readers leave comments on posts, but the editors do not respond to messages, so subscribers communicate with each other. The content in Telegram duplicates the content of posts in VKontakte.

Cherdobryak – the editors concentrated their efforts on the public only in one network (*VKontakte*). There are 15 topics for discussion on the forum, 55 videos are posted in the community, there are reactions from the audience - likes, comments. The content for the most part consists of puzzles, contests, announcements.

Schrödinger's Cat develops the community on *VKontakte*. Today, more than 50 thousand people have subscribed to the publication. The frequency of posting is at least once a day. The content has a nice visual component, it is diverse – from photos with short texts to podcasts and forums. Lots of views and comments from readers.

Sibiryachok – VK-community is regularly updated due to announcements of releases and events. In addition, 41 photo albums have been collected, 8 videos have been uploaded. Quizzes are held – the winners are then invited to the editorial office. User-generated content is concise – mostly thanks from quiz winners.

In terms of the number of subscribers on *VKontakte,* the *Luchik* magazine is the leader – more than 60 thousand users are members of the community, as of the end of July 2022. The *Copernicus Snail media* has the smallest audience. The leader in *Telegram* – *Schrödinger's Cat* (more than 2 thousand subscribers), is taking the first steps towards a large community – *Ponimashka* (about 500 people are subscribed to the *Telegram* channel).

4. Results

In the course of the audit, we looked at how editorial boards represent their readers themselves. On the sites of publications, in the presentation part, as a rule, the age of the audience is indicated and some qualitative characteristics of the readers are given with an emphasis on the interests of the child (*Young Technician*: a children's and youth audience that is interested in inventions and which itself is engaged in inventions). The audience is formulated as widely as possible in the journal *Young Naturalist* (adults and children). Most often, the age segment of readers "6+" (6 media) appears in publications, but a wide range is also often indicated, for example, 7-14 years old, 5-12 years old, 6-12 years old, 6-14 years old. Probably, the interests of children at 6 and teenagers at 14 are fundamentally different, but the editors somehow manage to combine these groups within one publication.

Descriptions of the target audience are often publicistic, there is often a mention that the media will be of interest to both children and parents. For example, The *Young Naturalist* speaks of its reader in the following way: *Young naturalist* is not an age concept, it can be not only a child

or a young person. The young in the phrase *Young naturalist* is by no means a tribute to tender age, but a synonym for courage, freshness of feelings, the ability to be surprised, creative burning, inspiration, and these qualities can be in a person at any stage of his life. It is no coincidence that among my readers are people of all ages: from elementary school students to gray-haired pensioners. There are no words, the reader of the *Young Naturalist* is a special person.

The most professional audience is represented on the site of the magazine *Think*. Here you can find a media kit with a description of the "12+" audience. Media readers are modern families with children who are interested in science and technology, lead an active image life, travel, attend cultural events. Parents with an active life position are maximally involved in the education of their children – they are not limited to the school curriculum. According to the media kit, the main audience is people aged 35-44 (65 %), most of the readers live in St. Petersburg (62 %).

We analyzed the community metrics of magazines on *VKontakte* using the *Pepper Ninja* tool. It provides audience data for communities with over 1,000 subscribers. The results show that the main audience of publics is people aged 35-45, most likely, these are parents, the pedagogical community. Readers under 18 are a minority. *Schrödinger's Cat* stands out from the general picture – the youth audience is mainly concentrated here, although there are also few users under 18 (6 %): 17 % of readers are aged 21-24, 16 % are 18-21 years old.

Engagement Ratio (ER) for *Pepper Ninja*: the highest among those analyzed by *Luchik* media (5.21 % and 60,000 subscribers). The second place is taken by *Class Magazine* (1.44 % and 12696 people). Then *Quantik* (0.07 % and 15025 people) and *Schrödinger's Cat* (0.06 % and 51425 people).

ER generally shows effective reach and how good the content is in terms of the audience (from subscribers to casual page visitors). It will be individual for each account, however, if we summarize all available statistics, then 15-20 % ER is considered normal for pages with an audience of up to 1 thousand subscribers, but then as the follower base grows, the indicators will fall. 7 % is good for a group of up to 50 thousand people, 5 % for a group of up to 100 thousand, 3 % for an account of 100 thousand or more. Thus, we see that the engagement rates for children's publications are low. Editorial offices need to think about problem areas – either change something in the quality and format of content, or in the system for attracting users, cheating "live" subscribers. The main work in any case is focused on content: interesting topics, increasing engagement through infographics, interactive polls and other forms of stimulating the audience, presentation style, videos and photos, and so on.

With regard to traffic analysis, there were difficulties in assessing traffic. Counters on sites are closed. Analysis of websites using the convenient tools of Similarweb and https://a.pr-cy.ru/ could be fully done only in two media – the magazine *Quantik*, *Schrödinger's Cat*. Similarweb, for example, does not provide data for sites with less than 5,000 visits per month. The second tool shows that the site data is outdated – the system does not read resources with low attendance rates. Ultimately, we do not see the possibility of an adequate comparison of site traffic, the results will not be representative. However, the conclusion is that the number of visitors to the digital platforms of children's magazines is small.

Since about 80 % of sites are a magazine landing page, the content structure of these resources is approximately the same: there are editorial requests, subscription information, and general information about the magazine. User-generated content is presented in sections with competitions, for example, in the section of the competition *My Pet* (*Young Naturalist*), drawings and stories of readers are uploaded. And on the site of the magazine "Quantik" there is a section "They write to us" with letters from children. Sites are updated irregularly, materials in general cannot be called operational. The titles of the texts are often faceless and do not differ in originality. But the genres are diverse: note, portrait (for example, biographies of famous scientists of the past and present), interviews, comics, reviews, etc.

We paid special attention to the educational content of the magazines. In 11 media, special projects can be distinguished that perform an educational function. For example, the project *Reserved History* jointly with the Russian Geographical Society, the special project *Literary Odyssey* and the paid program *School of a Young Writer* from the magazine *Quantik*, the project *Culture for Schoolchildren* from the *Sibiryachka, Golden Brains* - a series of lectures , seminars and master classes from the editors of the magazine *Schrödinger's Cat*, as well as the *Laboratory*. *Schrodinger's Cat* is one of the workshops of the well-known project *Summer School*, the All-

Russian Conference Young *Technicians and Inventors*, competitions for young modelers from the magazine *World of Technology for Children* and so on.

Separately, it is worth noting examples of publications with a rich history and heritage, whose sites, visually and conceptually, unfortunately, remained in the early 2000s. *Young naturalist* – very inconvenient site navigation, outdated design. The situation is similar with the social networks of the magazine – low audience involvement, lack of dialogue with readers. Media *Our Filippok* is an inconvenient site, an ill-conceived structure, disabled comments in social networks, dull headings of texts. All this does not contribute to attracting a new audience and increasing coverage.

5. Conclusion

Thus, the audit made it possible to draw several important conclusions, which are key characteristics of the functioning of children's magazines in the digital environment. On the websites of children's publications, a little information is given (section "About us" and analogues, a paragraph with information about the magazine on the main page of the site) for new visitors, editorial principles of work are indicated, but as a rule there is no up-to-date information for possible partners – project indicators, basic statistics circulation and unique visits, the total reach of the digital audience. The problem lies in the lack of separation of paper and online editorial products, there are no specific characteristics of the magazine and the site in terms of content and audience. Most of the sites are business cards, landings intended only for a quick acquaintance, the content is not published regularly, the posted links to magazine applications in the App Store and Google do not work. Websites rarely describe the key competitive advantages of publications in the children's media landscape – what exactly is the strength of the editorial office, what exclusive projects does the publication offer for readers, what are the features of the editorial policy and what topics are given priority. In other words, for a new reader it is not clear how this or that media will be useful, how it differs from others. The content on the sites is not published very quickly and is often designed to stimulate the publication's subscription campaign. Moreover, editorial offices do not use the potential of social networks, a third of publications do not develop their community at all. The engagement rates of those magazines that do manage social networks are still low. It is likely that editorial offices are either taking the first steps towards mastering social networks or underestimating the importance of this distribution channel in our time.

The hypothesis put forward by us at the beginning of the study, alas, was confirmed. Popular science children's magazines have great potential for the formation of an edutainment environment (learning through entertainment technology). Many of the children's publications have a long history, have established traditions and once successfully acted as the main additional or alternative source of knowledge for children and adolescents in the traditional education system or as a counterbalance to this system. However, today, in our opinion, this potential is not fully realized. A significant factor is that despite the rapid development of the digital environment, the peculiarities of media consumption of the younger generation of readers and a wide range of social networking opportunities (establishing a dialogue with the audience, promoting materials, increasing coverage, attracting and engaging new readers, etc.), children's magazines are still concentrated on the release of paper versions of publications and do not develop digital counterparts. In addition, communities of magazines in social networks are poorly developed and there is no work with the community.

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