

Hranchak, T.Y.Vernadsky National Library of Ukraine,
3, Holosiivskiy Ave., Kyiv, 03039, Ukraine,
+380 44 524 1770, granchakt@ukr.net

GAMING TECHNOLOGY AS INNOVATIVE TOOL FOR FORMING A LIBRARY GAME AND INFORMATION ENVIRONMENT FOR KNOWLEDGE MANAGEMENT



Introduction. The need to increase the efficiency of using available information and knowledge, creating conditions for the production of new knowledge and sharing this new knowledge makes studying the cognitive potential of gaming technologies very relevant.

Problem Statement. The fulfillment of game potential as innovative technology for the formation of a library and information knowledge management environment.

Purpose. To substantiate the necessity to introduce gaming technologies into the library practice in order to ensure an effective involvement of libraries in knowledge management; to develop theoretical and methodological approaches to organizing a game library and information environment.

Materials and Methods. The reference database of the research is library websites, thematic resources (International Games Week American Library Association portal and Zooniverse game platform), specialized literature: publications dealing with involvement of libraries in knowledge management processes, which highlight the experience of applying gaming technologies to education, research, and libraries. The systemic, functional, observation, hypothesis methods in combination with the social communication method have been used.

Results. The expediency of introducing gaming technologies as innovative knowledge management tool into the library practice within the framework of implementing the social role of libraries in preserving, cumulating, organizing, and spreading knowledge has been substantiated; the cognitive potential of gaming technologies has been shown; theoretical and methodological principles of introducing gaming technologies into the library practice have been offered; examples of effective use of gaming technology by domestic and foreign libraries have been highlighted.

Conclusions. A favorable effect of using the game cognitive potential in educational practice and scholarly research has resulted in the need to develop strategies for introducing gaming technologies as innovative knowledge management tool into the activities of library institutions.

Keywords: gaming technologies, knowledge management, library, and game library and information environment.

In present-day world, under conditions of informational oversaturation, the problem of effective information management and its transformation into a knowledge resource the use of which enables to solve important social tasks at a qualitatively new level becomes a matter of urgency. In the scholarly research literature dealing with modern information processes [1–5], there ap-

peared and has been getting widely used the term *knowledge management* that is usually understood as systematic processes to create the conditions for the identification and production of knowledge required in the process of human activity, as well as processes for their preservation and effective use.

Explicit knowledge, organization of its diffusion, and access to knowledge are often evident. This, for example, is the formal statement of avai-

lable knowledge in scholarly research publications, the creation of intelligent information access systems, etc. In the case of explicit knowledge, the most widespread one refers to access to knowledge in the form of documents. More difficult is the situation with the discovery and circulation of implicit knowledge that can be demonstrated by action, but is non-verbal. In this case, the initiator, organizer, or participant in the process of knowledge management cannot directly provide access to knowledge, since it has not been yet formalized, and the carrier of this knowledge himself may not even have identified it. So, first and foremost, it is about organizing a favorable environment for the identification of implicit, unformatted or undocumented knowledge.

Taking into consideration the communication component of knowledge management and its focus on strengthening the cognitive potential of the organization, the whole of its capabilities regarding the intellectual processing of information, the development and the effective use of new knowledge on this basis, it is relevant to determine, within the society, the possibilities of application of analytical and communication capacity of such institutions as libraries in the process of knowledge management, given that they concentrate documented knowledge produced in the process of social development and organized in the most convenient way for the use of this knowledge and are platforms where there come across various communication flows: interpersonal, intergroup, public communications, communication between the user and the document, etc.

The library function in terms of explicit knowledge management has been sufficiently defined as of today. It is to create electronic environments for accumulating and organizing the documented knowledge, providing an access to it and promoting its circulation in society. It is mainly concerns special libraries whose involvement in knowledge management processes has been studied by H. Daland [6], M. Koloniari, K. Fassoulis, [7], H. Roy [8], E. Semertzaki [9], D. Matarazzo and S. Connolly [10], T. Granchak [11], K. Lobuzin [12] etc.

A more complicated process is to create conditions for the discovery and translation of implicit knowledge. To solve this problem, it is advisable to use such an innovative tool as gaming technology in library and information activities.

Based on analysis of recent professional publications and current experience, the purpose of research is to unleash the potential of gaming technologies in the activities of library institutions as an innovative tool for the formation of a library and information environment for knowledge management, as well as for the substantiation of the need for introducing gaming technologies into the library practice to ensure effective involvement of libraries in knowledge management and identification of theoretical and methodological approaches to the organization of gaming library and information environment.

During the research, several methods have been used. In particular, designing a gaming library and information environment as an intensive communication space covering such components as a set of games, users, library staff (a game manager and a game supervisor), virtual and real gaming space, requires the use of a systematic method. The functional method is added to it and this has determined the functions of game manager and game supervisor, as well as the substantiation of the game functions in general. The observation method is used to study the experience of using the gaming technologies in the practice of individual libraries. Applying the hypothesis method in conjunction with the social and communication method has enabled to formulate assumptions on the feasibility of introducing the gaming technologies into the library practice in the context of involvement of libraries in organizing the knowledge management within the framework of realizing their social purpose i.e. preservation, accumulation, organization, and translation of knowledge.

The game is a specific social and communication practice. One of its functions is to form the subject's social skills and abilities that are necessary for him/her and the society. As Y. Hëyzinga

puts it, human culture is born in game and evolves like game [13]. Game space is an area of intense communication. Among the game benefits, researchers have pointed out its motivational attractiveness related to the entertaining nature of gaming, the creation of conditions for rapid analysis of information received in the course of game, and, accordingly, the promotion of acquiring new knowledge by the actors in parallel with the simultaneous verification of their ability to use it, the development of social identity, the encouragement of joint use and the discussion of shared knowledge among the actors [14].

The game advantage is active social communication forming the environment of social practices that are an important part of generating knowledge and sharing it through the relationship between the individual and the world. In this context, E. Wenger has introduced the concept of “community of practice” and defined it as a system of social learning [15]. This concept is considered as a particular social group that has common interests and is capable of collective learning in the course of which the relationships between the group members are getting stronger. On the other hand, it is a group of people who have a common interest in a particular field of human activity and participate in collective learning, which creates certain connections between them.

Game is a simplified model of the community of practice. Game rules are an algorithm method, skills of the activity in a certain jurisdiction. According to D. Ratting, President of the American Library Association 2008–2009, all types of games play an important role in the development of basic life skills. The players must learn and follow certain rules, make strategic and tactical decisions, and cooperate as closely as possible with teammates and other parties — everything they need at college and at work [16].

At the same time, game as an entertaining activity creates conditions for mastering knowledge unknowingly, which contributes to reducing fatigue and facilitates digesting new knowledge.

The game advantages in terms of acquiring new knowledge and skills include the simulation nature, the conditionality of actions, as well as the ability to replay, which allows the party to go beyond usual precautions based on life experience and to try to play an unusual alternative role. Gaming allows the players to try various social roles — a teacher, a doctor, a mother, a researcher, etc. — and, consequently, to better understand their own desires and habitude, to unleash their potential, and to learn interacting with other participants in social processes.

N. Zbarovskaya and M. Kolgin [17, 18] have emphasized the game property to solve a variety of social tasks, in particular, self-identification (in game trials), self-realization (fulfillment of personal potential), and socialization (integration into the community) due to instrumental, gnostic and socio-psychological functions of the game.

According to T. Kopitkin, the instrumental function of the game is to form players with certain skills; the gnostic function involves the formation of knowledge and purposeful development of thinking; the socio-psychological function contributes, first of all, to the development of communicative skills [19].

The educational games have an enhanced learning potential. Today, learning based on gaming technology attracts attention of educators while desiring to move from the conventional forms of learning to the interactive methods and the methods of interaction. Interactivity in education becomes a priority, since interaction of players results in exchanging knowledge, reorganizing old knowledge and generating new one.

So, according to the survey of law students of the Singapore Management University, who are engaged in applying GIGAME (GRADE INFLATION GAME) to the learning process [14], the use of gaming technologies while sharing knowledge has proved quite effective as fifty-nine students (92.2%) stated the game helped them in the learning process. For 37 students (57.8%), it seemed to enhance knowledge. Some students said, discussions in the course of game made them

rethink the concepts they misunderstood. For example, one student noted that the game helped him better understand the subtleties of the law of torts and reconsider some of his incorrect judgments. Most students noted, this kind of training allowed them to consolidate the knowledge while having a fun time.

The effectiveness of games in education in recent years has been substantiated by Ukrainian and foreign researchers: D. Bulgakov and O. Dotenko [20], P. Shcherban [21], D. Moursund [22], L. Anetta [23], B. Gros [24], K. Schrier [25], and others. In the USA, about 400 colleges offer videogame training courses [26].

Besides being useful for education, the gaming technology has proved promising for addressing the actual problems in science. The substantiation of games as an innovative technology for the production of new knowledge is given by K. Schriever in his monographic study (2016) [27]. An illustrative example, the *Fold.it* game launched in May 2008 by researchers from the University of Washington, has proved useful in addressing the AIDS issue, as it represents a 3D model of protein coagulation. The gamer should try to do it in the most effective way, working with real molecules (substances). The results arrive at the processing center, where they are checked using a supercomputer.

For the three years from the game launch, players had learned to make some successful models, and, in 2011, they identified and validated a precise model of protease enzyme that played a key role in infecting the monkey body with HIV retrovirus. Researchers were failing to obtain the model of this protein for almost 15 years, but having got it they have been trying to create drugs that would affect this process. In the same year, a full description of this protein with gratitude to *Fold.it* players for their contribution into the model was published in *Nature Structural & Molecular Biology* [28].

Another game — *Planet Hunters* — developed by researchers at Yale University is used by astronomers to find exoplanets for Earth-like life.

Five hundred thousand players registered on the project website have classified millions light curves, in other words, they have done a job that would take 200 years for one researcher working 24 hours a day seven days a week. [29]

The research potential of games is enormously high. According to *The Guardian*, humanity spends on games about 3 billion hours a week, so even if part of this time can be used for science, the world researchers will have a powerful resource. In view of this, the main task is to develop such games that would be interesting and attractive for players, because the more people are interested and involved in game, the greater is the resulting data set and, accordingly, the more reliable are conclusions [30].

Trying to utilize the public potential, an international group of researchers has organized the *Zooniverse* platform (<https://www.zooniverse.org>) with game projects downloaded for research. These projects require the active involvement of volunteers to fulfill research tasks and cover such disciplines as astronomy, ecology, cell biology, the humanities, and climatology.

Considering the cognitive potential of gaming technologies, their use in library practice is justified and appropriate, since the social purpose of libraries is to preserve, to cumulate, to organize, and to spread information and knowledge. L. Roy, President of the American Library Association 2007–2008, emphasizes the fact that games are a magnet attracting various library users and in addition to their entertainment value, have proved a powerful tool for expanding literacy and learning [16].

In the library practice, games as entertainment and a tool for attracting users have been used for a long time. S. Nicholson, a famous researcher of games in the library, states the gaming technology started to be used in libraries since the 1850's [31], starting with board games, in particular, chess. However, in the context of organizing a library environment for knowledge management, games have not been considered until recently, although the experience of using board games

was enriched with carnivals of characters, quizzes, contests, game travels, and so on.

Nowadays, libraries have been using games worldwide. Over the last ten years, libraries have developed gaming activities ranging from library board games to mystery games and exciting role-playing games.

In 2011, in the USA, under the auspices of the American Library Association, *the Games and Gaming Round Table (GameRT)* was created to formalize the game line in librarianship. The purpose of this association was to support librarian initiatives regarding the use of gaming technologies in their activities, the exchange of opinions and experiences, and the promotion of the idea of public benefit from the introduction of games in library practice.

The annual *International Games Week* in which, according to the American Library Association, 1,620 libraries from all world countries, including two ones from Ukraine, took part within the period from October 29 to November 4, 2017, is an evidence of wide application of games in libraries. According to the event statistical data, on average, 82 620 users joined the games. The main idea of such a large-scale event was to establish, through libraries, links between different communities with the help of educational, social, and entertainment properties of various games [32].

It is important to emphasize that the gaming technology have been used in libraries of different types. The public libraries have the largest share, however, such practice exists in academic libraries and high school libraries as well. Foreign experience has shown long-term benefits and promising outlook of interaction between research institutes, higher educational establishments, and libraries with use of gaming technologies that play a role of communicative agents providing an access to the developed games [26, 34–36]. According to D. Ward and M. Laskowski, the academic libraries have an opportunity to go beyond the basic development of physical collections and open game sessions and to start developing a new generation of gaming collections

and services right now. The libraries have a chance to be actively involved in the early stages of development, training, and methodology of new-generation gaming technologies campus [33].

However, despite the potential of gaming technologies in organizing the knowledge management, they have neither become systematically used in librarianship and information activities of Ukrainian institutes nor practically applied to scholarly research.

In Ukraine, among those who have successfully implemented games in libraries there are the Denisenko R&D Library of the *Igor Sikorsky Kyiv Polytechnic Institute* National Technical University of Ukraine, the Scholarly Library of the *Kyiv-Mohyla Academy* National University, the Scholarly Library of the Ivan Franko National University of Lviv, the R&D Library of *Lvivska Polytechnica* National University, the Library of Petro Vasilenko Kharkiv National Technical University of Agriculture, the Hrushevsky Odesa Regional Universal Scholarly Library, the Korolenko Chernihiv Oblast Universal Scholarly Library, the Potushnyak Zakarpattia Regional Universal Scholarly Library, the Kamianske Central Library System and so on.

Thus, the Scholarly Library of the *Kyiv-Mohyla Academy* National University uses games to promote studying a foreign language (English). For instance, the Kitastyi American Library has built a collection of board games, including *Monopoly*, *Wonders*, *Boggle*, *Forbidden Island*, etc. While gaming, the players are not only entertaining and interacting, but also are improving their knowledge of words and skills of live communication in a foreign language.

In addition to the board games, libraries arrange brain rings, business and role-playing games, bibliographic quests, etc. Thus, in 2016, the R&D Library of the *Lvivska Polytechnica* National University launched a role-playing game *Leopolis 1527 / The Renaissance of the Legend*, during which the players are digging into the atmosphere of 1527 and try to revive the old city of Lviv.

On April 2, 2016, upon the initiative of the *Granit* Youth Association, under support of the Department of Humanitarian Policy of the Lviv City Council, the National Library of Ivan Franko National University of Lviv held an annual simulation game *Nova Krajina* (Ukrainian for *New Country*) within the framework of the second phase of *The Country of Changes* innovation education project.

The game scenario is based on simulation of situation in the country after the Revolution of Dignity and the beginning of the war in the east of Ukraine. The player's goal is to understand the lay of the land in the state processes and to find an optimal model of the operation and development of events in the "country U". The methodological framework of *The Country of Change* project has been developed by postgraduate students of Ukrainian universities, with foreign experience of similar programs taken into consideration. So, this educational role-playing game allows students to feel politicians, to create their own business or to test themselves as top managers [37].

In 2018, the Denisenko R&D Library of the *Igor Sikorsky Kyiv Polytechnic Institute* National Technical University of Ukraine held a business game *Time Management or How to Make Everything in Time*. N. Dziuba, a business coach certified by the European Coach Federation (ECF), was invited to organize the game. While conducting the game, she familiarized the players with the strategic and tactical planning, the concept of time investment, the peculiarities of time perception by people with different psycho-types. The players rethought the phenomenon of time and distant load, analyzed case studies for different planning methods, and elaborated effective daily timetable [38].

Earlier, in 2016, a similar business game *Time Management. An Effective Organization and Use of Time* was organized at the Hrushevsky Odessa Regional Universal Scholarly Library.

It was interesting to use the gaming technologies in a fairy show *A Night in Library among Fic-*

titious Characters, which was held in 2017 by the Korolenko Chernihiv Regional Universal Scholarly Library. The guests were offered *The Book Treasures of the Dungeon* program: an intellectual quest, encounters with Roxolana, in-house ghost, and other fictitious characters.

The actors of detective game *To Be, or Not to Be, or to Stay Alive* conducted in the Department of Foreign Language Documents were personating the characters of confusing story and trying to find the murderer among five "suspects" for the murder of winemaking farm owner [39].

In April 2018, the Patushniak Zakarpattia Regional Universal Scholarly Library hosted *Life Capital* business game, the main idea of which was the building of skills for efficient use of money. The players could see how ineffective spending affected their success in the future. This game is a financial simulator designed based on real financial mechanisms and tools taken into account, with simulated life situations enriching the experience of the players and helping them learn to make right decisions in the future [40].

In the context of the government decentralization reform, *Board Games Week* organized in June 2018 by a library from the Kamianske Central Library System is worth noticing. In particular, with assistance of G. Filimonova, the coordinator of the Social Investments Fund in Kamianske, there were held *Carcassonne* and *The World of Communities* economic games [41]. As stated in the announcement of the event, O. Donets, a member of the City Council [41] joined the team of players of *The World of Communities*. In the game course, each player could act as mayor who by his decisions and work during the sessions held under a chosen scenario tried to make the city community prosperous and happy. In addition to the role of mayor, the participants could play a pensioner, an unemployed or a businessman. The game contributed to the understanding of public needs, sources of funds and the prioritization of their use.

The practice of using gaming technologies in libraries of Ukraine requires the definition of

theoretical and methodological framework for organizing a library game and information environment i.e. an environment of intensive communication.

The key components of this environment are a set of games offered by the library (game library), library space for real and virtual gaming, users, and library staff (game manager and game facilitator).

Games in the library can be organized spontaneously or regularly, however, in both cases, the library organizes its game space, establishes its gaming system, and creates conditions for making the games effective. For the functioning of the library game and information environment it is necessary to allocate a certain space, at least, a place where the games are stored and the users have access to them. Depending on the capacity of each particular library, it can be a separate room divided into zones or several shelves. If games are conducted sporadically, in the course of game, the gaming space can extend to various library rooms and cover almost the entire library. At the same time, the requirement for the accessibility of this space to the users remains unchanged. Creating a virtual gaming library and information space requires special software and technology support, as well as equipment. By example of the *Zooniverse* platform, on-line library games can have one access point and be hosted on one portal. The expansion of the library's game space will be facilitated by the compilation of lists or guides for online games available to users, the preparation of video and analytical reviews of such games and familiarization of users with them.

A necessary component of the library game and information environment is also a game library consisting of both virtual and real games. Each type of games is divided into subtypes – board, intellectual, training, business, role-playing, bibliographic, etc. It is desirable that the games are classified not only by type, but also by level – from basic to advanced, and by the number of players – from one to the team or several teams.

Such a game library can be formed using various sources: grant support, donations of used games from subscribers and library employees, allocation of funds from library budget for replenishment of the stock and the development of new games by library employees together with partners or volunteers. In particular, libraries of higher educational establishments or academic institutes can develop new games together with interested scholars, teachers, and students, within the framework of current scholarly projects, focusing on the needs of their research or trainings. Such games have a narrow purpose to enhance knowledge and skills in a particular field or discipline. For example, for university libraries, online gambling tournaments and *Plagiarism: The Goblin Threat Plagiarism Game* [42] have proved to be effective in terms of the formation of information literacy and the academic integrity culture. The player must find and eliminate them, giving correct answers to the questions.

Researchers from the University of Florida stress the interest of academic institutions in creating gaming projects for students, which involve documentary research in the library in real space. Similar games were created in France in the early 2000s. In the LARP (Live-Action Role Playing) games participants physically act out virtual scenarios in real locations, having specific goals. The players have to deal with electronic resources and printed documents, to compare results in order to find tips, to conduct searches to puzzle out the mystery. Some of these initiatives have been noted and got awards [43].

The simplest game tasks oriented towards the formation of information literacy are searching for a freely accessible book, identifying a word or term by definition, searching for a word or concept in dictionaries, clarifying bibliographic data, compiling a recommendation list, searching for certain information in books.

All games of the library collection must be accompanied with instructions and necessary equipment (panels, consoles, etc.), be described and cataloged in order to facilitate their search and

access to them for users. If to buy a required game is impossible, it's worth considering the option of renting it.

Given the spread of gaming practices in libraries, it is necessary to address issues related to their organization, for which some researchers propose to introduce the positions of the game manager and game facilitator. The game manager is responsible for solving organizational issues, searching for partners and required software and technology support. He/she makes the list of games that are the most interesting for users or potential partners, is the contact person for negotiations on organizing or developing a particular game. The game facilitator is the person who helps to the players to understand the instruction in the course of game or acts as a moderator. If a library cannot afford to have full-time employees for these positions, it may invite business coaches and volunteers to help organize and conduct the games.

Hence, games have a powerful cognitive potential, and their use in educational practice and research has been justified. In view of this, it is ex-

pedient to broaden the introduction of gaming technologies as an innovative knowledge management tool into the activities of libraries, in particular, academic libraries and scholarly libraries of higher educational establishments, as well as to promote the formation of a library game and information environment in libraries. Within the framework of the game, scholarly libraries play the role of mediator between the research institutes and the HEE student community, providing a point of access to the game or creating a gaming space. Nowadays, many Ukrainian libraries periodically organize games of various directions and topics, but these cases have not become systematic yet; the games conducted in libraries are not related to scholarly research; therefore, the potential of games as an innovative knowledge management technology has not been utilized by libraries to the full. The current tasks are to develop strategies for the use of gaming technologies in libraries, to establish partnership between libraries and research institutions, to form library's game collections, and to train the respective library's personnel.

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Т.Ю. Гранчак

Національна бібліотека України імені В.І. Вернадського,
просп. Голосіївський, 3, Київ, 03039, Україна,
+380 44 524 1770, granchakt@ukr.net

ІГРОВІ ТЕХНОЛОГІЇ ЯК ІННОВАЦІЙНИЙ ІНСТРУМЕНТ ФОРМУВАННЯ БІБЛІОТЕЧНО-ІНФОРМАЦІЙНОГО СЕРЕДОВИЩА УПРАВЛІННЯ ЗНАННЯМИ

Вступ. Необхідність підвищення ефективності використання наявних знань та інформації, створення умов для продукування нових знань та обміну ними актуалізують вивчення когнітивного потенціалу ігрових технологій.

Проблематика. Розкриття потенціалу гри як інноваційної технології формування бібліотечно-інформаційного середовища управління знаннями в діяльності бібліотек.

Мета. Обґрунтування потреби впровадження в бібліотечну практику ігрових технологій з метою забезпечення ефектної участі бібліотек в управлінні знаннями, розробка теоретико-методологічних підходів до організації ігрового бібліотечно-інформаційного середовища.

Матеріали й методи. Аналітичний огляд веб-сайтів бібліотек, тематичних ресурсів (портал Американської бібліотечної асоціації International Games Week та ігрова платформа Zooniverse), фахових публікацій, присвячених висвітленню участі бібліотек в процесах управління знаннями, досвіду використання ігрових технологій в освіті та науці, впровадженню цього досвіду в бібліотечну діяльність. Використано системний, функціональний методи, методи спостереження, гіпотези в поєднанні з соціально-комунікаційним методом.

Результати. Показано доцільність впровадження в бібліотечну практику ігрових технологій як інноваційного інструменту управління знаннями в рамках реалізації соціального призначення бібліотек щодо збереження, кумуляції, організації і трансляції знань, розкрито когнітивний потенціал ігрових технологій, розроблено теоретико-методологічні засади впровадження ігрових технологій в бібліотечну практику, висвітлено приклади ефективного використання вітчизняними та закордонними бібліотеками ігрових технологій на сучасному етапі.

Висновки. Позитивний ефект використання когнітивного потенціалу ігор в освітній практиці й наукових дослідженнях актуалізує розробку стратегій впровадження ігрових технологій як інноваційного інструменту управління знаннями в діяльність бібліотечних інституцій.

Ключові слова: ігрові технології, управління знаннями, бібліотека, ігрове бібліотечно-інформаційне середовище.

Т.Ю. Гранчак

Национальная библиотека Украины имени В. И. Вернадского,
просп. Голосиевский, 3, Киев, 03039, Украина,
+380 44 524 1770, granchakt@ukr.net

ИГРОВЫЕ ТЕХНОЛОГИИ КАК ИННОВАЦИОННЫЙ ИНСТРУМЕНТ ФОРМИРОВАНИЯ БИБЛИОТЕЧНО-ИНФОРМАЦИОННОЙ СРЕДЫ УПРАВЛЕНИЯ ЗНАНИЯМИ

Введение. Необходимость повышения эффективности использования имеющихся информации и знаний, создания условий для выработки новых знаний и обмена ими актуализируют изучение когнитивного потенциала игровых технологий.

Проблематика. Раскрытие потенциала игры как инновационной технологии формирования библиотечно-информационной среды управления знаниями в деятельности библиотек.

Цель. Обоснование необходимости внедрения в библиотечную практику игровых технологий с целью обеспечения эффективного участия библиотек в управлении знаниями, разработка теоретико-методологических подходов к организации игровой библиотечно-информационной среды.

Материалы и методы. Аналитический обзор веб-сайтов библиотек, тематических ресурсов (портал Американской библиотечной ассоциации *International Games Week* и игровая платформа *Zooniverse*), профессиональных публикаций, посвященных раскрытию участия библиотек в процессах управления знаниями, опыта использования игровых технологий в образовании и науке, внедрению этого опыта в библиотечной деятельности. Используются системный, функциональный методы, методы наблюдения, гипотезы в сочетании с социально-коммуникационным методом.

Результаты. Показана целесообразность внедрения в библиотечную практику игровых технологий как инновационного инструмента управления знаниями в рамках реализации социального назначения библиотек по сохранению, кумуляции, организации и трансляции знаний, раскрыт когнитивный потенциал игровых технологий, разработаны теоретико-методологические основы внедрения игровых технологий в библиотечную практику, освещены примеры эффективного использования отечественными и зарубежными библиотеками игровых технологий на современном этапе.

Выводы. Положительный эффект использования когнитивного потенциала игр в образовательной практике и научных исследованиях актуализирует разработку стратегий внедрения игровых технологий как инновационного инструмента управления знаниями в деятельность библиотечных учреждений.

Ключевые слова: игровые технологии, управление знаниями, библиотека, игровая библиотечно-информационная среда.