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**METHODOLOGICAL BASES OF INFORMATIVE MANAGEMENT
IN FIELD OF EDUCATION AT TERMS OF FORMING OF
INFORMATIVE SOCIETY IN UKRAINE**

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**МЕТОДОЛОГІЧНІ ОСНОВИ ІНФОРМАЦІЙНОГО УПРАВЛІННЯ У
СИСТЕМІ ОСВІТИ ЗА УМОВ ФОРМУВАННЯ ІНФОРМАЦІЙНОГО
СУСПІЛЬСТВА В УКРАЇНІ**

Анотація. В статті репрезентовано методологічні засади інформаційного менеджменту в сфері освіти на засадах системології, обґрунтовано ядро теорії інформаційного менеджменту, розкрито сутність і специфіку інформаційної діяльності, проблеми її організації та здійснення, генезис загального менеджменту та його вплив на становлення інформаційного менеджменту як нову галузь освітнього менеджменту за умов формування й розвитку інформаційного суспільства в Україні.

Ключові слова: інформація, інформаційний менеджмент, інформаційне управління загальноосвітнім навчальним закладом (ЗНЗ), інформаційне забезпечення управління загальноосвітнім навчальним закладом, інформаційні ресурси і процеси, інформаційна компетентність керівника.

Л. Калинина

**ОСНОВЫ ИНФОРМАЦИОННОГО УПРАВЛЕНИЯ В СИСТЕМЕ
ОБРАЗОВАНИЯ В УСЛОВИЯХ ФОРМИРОВАНИЯ
ИНФОРМАЦИОННОГО ОБЩЕСТВА В УКРАИНЕ**

Аннотация. В статье представлены методологические основы и теоретически обоснованное ядро теории информационного менеджмента в

сфере образования с позиций системологии. Раскрыты сущность и специфика информационной деятельности, проблемы ее организации и реализации, влияние развития теорий общего менеджмента на становление и развитие новой отрасли научных знаний – информационного менеджмента в условиях формирования и развития информационного общества в Украине.

Ключевые слова: информация, информационный менеджмент, информационное управление общеобразовательным заведением, информационное обеспечение управления общеобразовательным заведением, информационные ресурсы и процессы, информационная компетентность.

Problem setting. In the modern conditions the problem of educational management informatization needs scientific ground in the context of national information policy realization in the state and sets the strategic tasks for the education system of the effective use of professional, financial, material, technical and information resources (IR) and introduction of the information systems, new information technologies, facilities of ICT in the management of the system of general education (SGE). The operating system of state administration of SGE and, in particular, management of secondary education establishment (SEE) does not have the proper effective mechanism of state national policy realization of information society development in Ukraine on principles of public information infrastructure and IR development and providing free access of the subjects to them, motivation strengthening in relation to their wide launch in education, management, science.

Therefore, the outlined problem needs new approaches to be tackled on the basis of the object of study consideration on methodological, scientific and procedure levels; determination of theoretical and conceptual principles of information management which must be proven by the results of qualitative and quantitative analysis of theoretical and empiric research. Such researches have to be conducted with the purpose of contradictions solving between the requirement of information

society speed-up development in Ukraine and modern insufficient state of information support of SEE management and level of information culture of managerial personnel.

Analysis of the last researches. On account of forming the information society in Ukraine, determination of scientific, technical and innovative model's development priority of all society social spheres, including education, which are characterized by support of fundamental and applied researches, scientific and information technologies, such features have become important: system cybernetic and system synergetic approaches to processes and phenomena cognition in the unstable systems, particularly information processes, phenomena «information» and «management» in the system of education which are exposed in works of native and foreign scientists: R. Abdeyev, V. Andrushchenco, I. Blaubergh, D. Bell, B. Gershunskiy, G. Yelnicova, M. Yevtukh, L. Danilenko, V. Kremin, Y. Knyazev, V. Lutay, V. Oliynic, O. Pometun, K. Popper, M. Ptashnic, I. Prigozhin, V. Sadovskiy, G. Hacken, E. Yudin. The basic laws and peculiarities of managerial information systems and automation management systems development are described in the works of V. Bondar, V. Bicov, V. Glushcov, Y. Doroshenco, B. Kuznetsov, V. Maslov, M. Porter, S. Tereschenco; the ideas of social pedagogical systems modernization, scientific approaches and the ways of their realization in management are characterized in the scientific researches of such leading scholars as M. Burda, N. Bibic, L. Vaschenco, I. Zyazyun, V. Lugoviy, O. Lyashenco, N. Protasova, O. Savchenco, O. Sukhomlinska and others.

Aims of the article. To highlight the basis and show the peculiarities of the information management in the field of education in the conditions of forming state's information society and to define its terminological units.

Main part. For the exposure of informative management specifics in the sphere of education we have defined and grounded conceptual principles of research on methodological, theoretical and practical levels.

Methodological concept is represented by interconnection and co-operation in scientific approaches which requires research of information management in the sphere of education. Among them:

- system approach allows to consider SEE as a megasystem, as open stochastic, complex, multicomponent social and pedagogical, cybernetic and information systems in their unity and polystructural object of management; administrative activity of the establishment's manager as multicomponent and polyfunctional one, that has integrative character;

- system cybernetic approach creates possibility to study conceptual and terminological mechanism of the information management, information management of SEE, information processes; information support of SEE management as a management subsystem, which is adequate to the organizational structure of all system, its properties and relations; determination of subsystem's components and interconnections between them from positions of the dynamic systems integrity; characteristics of ability of the managerial system purposefully to convert the components due to the processes of receiving, working out, transformation of the information which circulates on the principle of direct and reverse connection in accordance with the changes of external and internal conditions of their operating;

- ontological approach represents the nature of the scientific phenomenon of «information» as the substrate of management, information processes and information activity of management subjects;

- axiological approach allows to find out if managers are aware of the value of information as a strategic resource for management realization and acceptance of the scientifically grounded administrative decisions;

- competence approach is a basis for grounding of information activity and information culture of the SEE manager;

- functional approach allows to study and analyse a purpose, task, functions of subjects in relation to various management and information processes, in particular, by the information systems and objects in SEE taking into account external information and influence of external social environment; it also allows to offer the rational distributing of functions between the subjects of administrative and managerial link and educational process on condition of reasonable contents filling of

the system of information support of SEE management and realization of its technological constituent;

- polysubjective approach helps forward understanding of unity of personal, communicative and activity aspects of management's subjects co-operation, self-government, state public self-government of all hierarchical levels of management system of SEE;

- synergetic approach allows to explain scientific ideas, concepts, hypotheses of information management not only with pedagogical facts but also with various nonlinear connections between theories, that brings to new growth of administrative and pedagogical knowledge.

Theoretical concept allows to define the system of definitions, initial factors and parameters, without which the cognition and understanding of such phenomena essences as «information management», «information management of SEE», «information», «information processes», «information systems», «information technologies», «efficiency of management of SEE» is impossible. Their functions, characteristic signs are impossible as well. This concept requires development and scientific ground of model of the of the information support system of management of SEE and ASC establishment; makes possible the selection, estimation, systematization of information which represents the real educational situation in an establishment. It facilitates meeting information demand of subjects in relevant, reliable, exhaustive information for the decision of tasks of management and implementation of functional duties.

Practical concept is foreseen by introduction of bases of information management in practice of guidance of SE, and also IR, different kinds IC, NIT, facilities of ICT, system of the information providing of management of SEE, functioning of which is the specially organized purposeful, dynamic process, which is an innovation after the character, adapted to the real resource providing of establishment, determination of quality of this system, verification of efficiency of

management of SEE on its basis and creation of effective administrative-information relations on the different hierarchical levels of control system of SEE.

For finding out of essence of term «information management», which is comparatively new, it was introduced in 1978 in a scientific appeal by the federal government of the USA during introduction of control after governmental documents, the extended search is carried out in the Internet network with application of information storage and retrieval systems, as it is visible at Fig. 1, 2, 3.

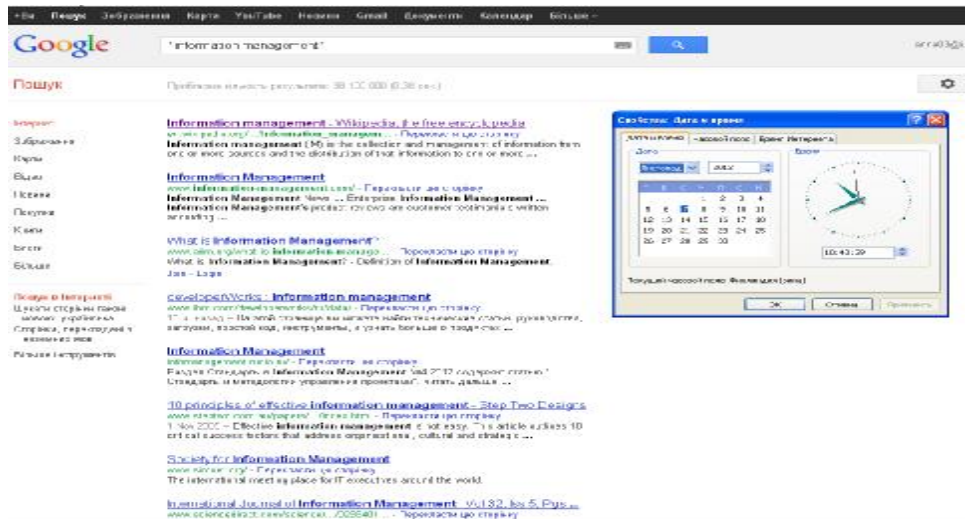


Fig.1. Screen page of search results of «Information management» in «Google»

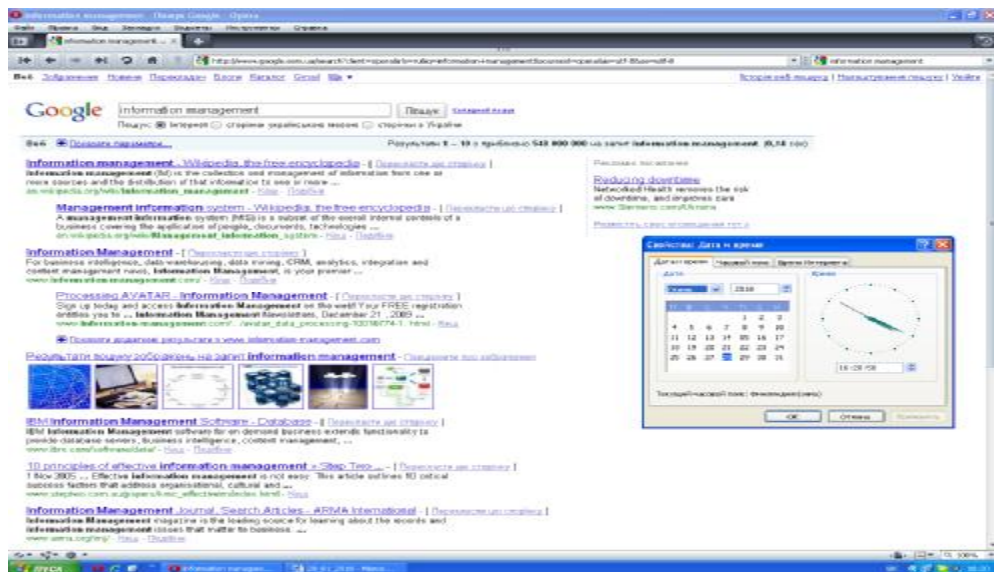


Fig.2. Screen page of search results of «Information management» in «Google»

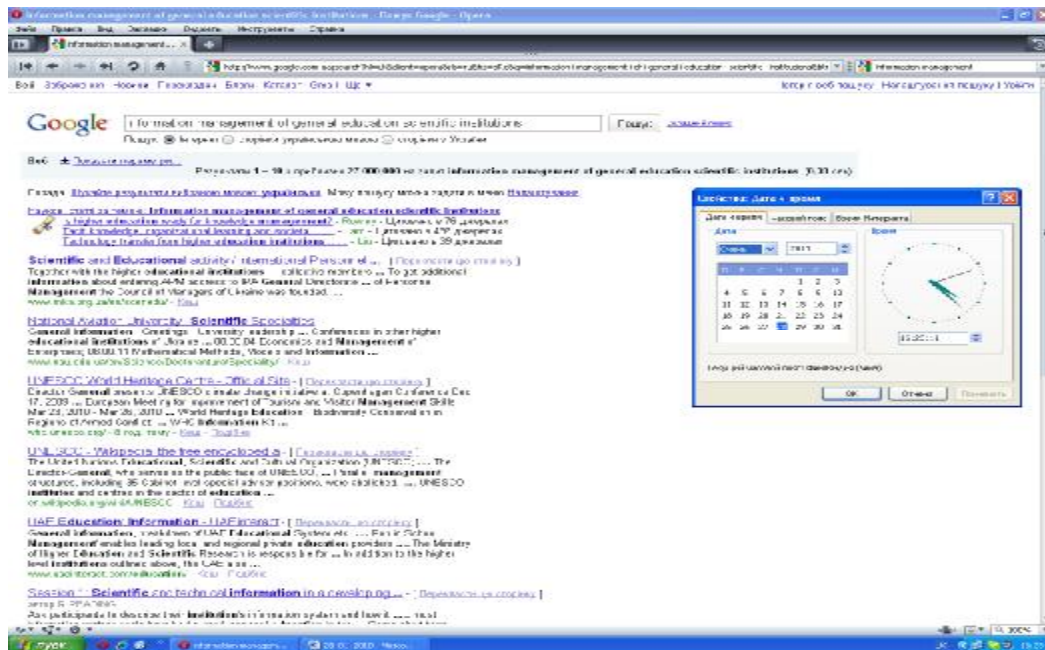


Fig. 3. Screen page of search results of «Information management» in «Google»

The results of the extended search by the method of keywords, carried out on the 21st of December 2011. in the Internet prove that the term «information management» with explanation of its essence is found in 2 sites and 2 documents in «Google»; and the same term without quotation marks is found in 2 446 sites and in 39 351 documents in the searching system «Rambler»; 1 858 sites and 40 142 pages in ISS «Yandex»; 190 000 pages in «Google» as it is visible from the table. 1. By the 5th of May 2012 a term «information management» according to keywords is found in the searching system «Rambler» in 16 sites and in 112 documents, in «Google» the results were the same as in December, 2011, and the category of «information management» in quotation marks is found only in one site and in one document. The results of search for ISS «Yandex» in the Internet by the state on the 5th of May 2012 are analogical.

It should be noticed that the term itself was found only in Google. Its explanation was found in Wikipedia. All other search machines presented different varieties of the term, such as «informatization», «information activities»,

«information», «management», «control», «school» which determine its context but not essence (Chart 1).

Having the aim to find out the stage of scientific field development of information management in Ukraine we carried out the search in Ukrainian and Russian language sites and used the key-words in Ukrainian and in Russian.

Chart 1.

Search results of terms on the Internet, which characterize information management on the 28st of January 2011

Name of ISS	Name of term	Search results
Rambler	«менеджмент образования» («management of education»)	747 sites, 2000 documents,
Rambler	«інформаційний менеджмент» («information management»)	328 sites, 6000 documents
Rambler	інформаційний & менеджмент (information and management)	10 000 sites, 473 documents
Rambler	«образование» & «информационный менеджмент» («education» & «information management»)	3 000 sites, 35 000 documents
Rambler	інформаційний менеджмент без «лапок» за ключовими словами інформаційний, менеджмент, менеджмент IP (information management without «quotation marks» according to the keywords information, management, management IR)	10 000 sites, 474 000 documents
Google	інформаційний менеджмент за ключовими словами (information management according to the keywords)	3 410 000 documents
Google	«інформаційний менеджмент» («information management»)	195 000 document
Яндекс	інформаційний менеджмент за ключовими словами (information management according to the keywords)	882 documents

Continuation of the table 1

Google	«інформаційне управління школою», «інформаційне управління» («information management of school», «information managing»)	(None documents is found)
Google	інформаційне управління школою за ключовими словами без лапок (information management of school according to the keywords without quotation marks)	279 000 documents
Яндекс	інформаційне управління школою за ключовими словами «управління школою», «інформаційне», «школа», «управління» (information management of school according to the keywords «management of school», «information», «school», «managing»)	431 000 documents
YaHoo!	«інформаційне управління школою» («information management of school»)	None documents is found
Rambler	«інформаційне управління загальноосвітнім навчальним закладом» («information management of secondary educational establishment»)	1 site, 1 document
Rambler	інформаційне управління закладом (information management of an establishment)	7 000 sites, 242 000 documents
Rambler	«інформаційне управління загальноосвітнім закладом» («information management of secondary educational establishment»)	None documents is found
Rambler	«информационное управление общеобразовательным учебным заведением» («information management of secondary educational establishment»)	None documents is found
Rambler	«информационное управление учебным заведением» («information management of an educational establishment»)	None documents is found
YaHoo!	«інформаційне управління загальноосвітнім» («information management of secondary»)	1 site, 1 document

Besides searching for the term «information management» with the help of different special ISS which are directed on processing of text and referral documents and based on the method of keywords, the searching process was conducted for the following terms: «інформаційне управління» («information management»), «інформаційне управління школою» («information management of school»), «інформаційне управління загальноосвітнім навчальним закладом» («information management of secondary educational establishment»), «інформаційне управління загальноосвітнім» («information management of secondary»), «інформаційне управління загальноосвітнім закладом» («information management of secondary establishment»), «информационное управление общеобразовательным учебным заведением» («information management of secondary educational establishment»), «информационное управление учебным заведением» («information management of educational establishment»). The search results are given in the Chart 1. and Fig. 4, 5.

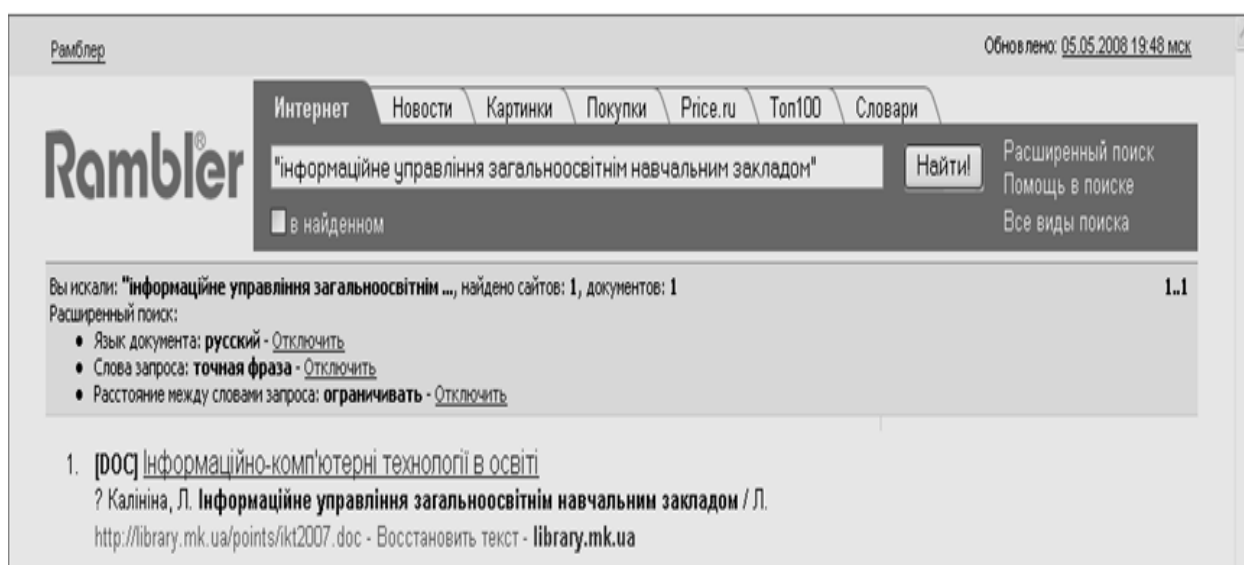


Fig. 4. The search page of ISS «Rambler» with the results for the term «information management of secondary education establishment»

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Fig. 5 The screen page of search results for the term «information management» with the use of ISS «Google»

It was found out that a term «information management» is sometimes met, as it is visible, in sites and in the texts of documents, but mainly after such key categories: «information support of process», «information support of management», «information providing», «information management of school», «information management of secondary educational establishment», «management information», «information culture», «information», «information and computer technologies in education», «use of information and communication technologies in professional activity of manager», «application of information technologies in the management of SEE», «new information technologies», «information network technologies», «information resources», «management of information resources».

The application of keywords method for finding a term in the Internet and finding out its essence allows coming to a conclusion as for forming a new scientific field – the field of information management, which can be confirmed by the presence of sites and pages where it is possible to find this term. Concerning education, the results of search prove that this process is being launched into the education practice much more slowly than into the others.

It should be emphasized that there is only one term in English, «information management», which nowadays is normative in scientific circulation and practice of

management, and in Ukrainian language there are two scientific terminological units: «information management» and «information control», where in most cases only the names are distinguished, but not the essence of concepts. It is legitimate and confirmed translation of the English concept «information management» according to the dictionary [2] as «information control». Therefore, it is very important to point out its presence in terminology circulation [1; 2, c.703; 3; 4; 10; 12 – 14] and Ukrainian practice of management semantically identical according to the essence of terms «information management» and «information control», which legitimately coexist and are used. We usually suggest to use a term «information management of SEE», as we consider it to represent the translation from English Ukrainian of «management» concept more correctly and more adequately as «management» [2, c. 703], and also classic variant of category, «information management» for denotation of the proper scientific sphere.

The information management, in our opinion, has to be understood as the denotation of a separate direction of educational management as the sciences about an effective management of educational establishments and institutions, that is being enriched by the theoretical ground of the information contents of management process, electronic information resources, administrative and educational setting software; has its scientific searching space, object and subject of research. As for definition of the *object of information management*, it was set on the basis of analysis of different conceptions of production management, management of information resources, phenomenon of information and its models, that is considered as the management of organization on the basis of information life cycle (determination of aims; creation, collection, maintenance, search, analysis, transfer of information; use of information), which includes the grounding and development of conception of information policy, «strategic set» of management, designing and creation of IR, informative resources, IS, MIS with application of facilities of ICT, NIT, network technologies and their rational use; processes of analysis, organization and co-

ordination of information streams and arrays given in architecture of the system of the information support of management as a subsystem of management of SEE.

Development of scientific field of «information management» in the sphere of education needed introduction of terms in to the scientific cycle such as «information management of SEE», «information policy», «system and cybernetic approach to management of social organizations», consideration of basic and derivative concepts, and also the ground, or, in case of necessity, the determination of their essence or providing with their interpretations according to the author. The semantic analysis of the term «information» in different areas of scientific knowledge allows to understand that the concept of «information» is *basic*, as well as «information management», and the derivatives are such concepts as «types of information», «information support», «information support of management process», «information system», «information administrative systems», «contexts of information», «information sources», «information processes», «information technologies», «information resources», «information activity», and other definitions. The research pointed out that multiplicity of semantics and ambiguousness of author's interpretations of concepts complicate research of problem to a certain extent and induce scientists to integrate their intent sphere into the unique conceptual vision, particularly, it touches general scientific categories such as «information» and «information management» and derivative concepts. The study of derivative concepts of research served as the scientific ground of subsequent analysis of their maintenance, structure and interdependence with basic ones, which form a concept-terminology circle of information management.

In the process of research the essence of *information management of SEE* was defined as a complex, multisided and nonlinear process of subject-subject, subject-object, object-object co-operation on the basis of receipt, analysis, working out, exchange, accumulation and use of information; co-operation and interdependence of SEE subsystems and external environment in space and time, directed to organization,

planning and co-ordination of the programmes, projects, measures to achieve the purpose of functioning and development.

The analysis of such phenomenon, as an information management of SEE, has become the basis for determination of its characteristic features: presence of two systems - managing and guided within the SEE framework as a selfmanaging system and its component – the system of the information support of management; purposefulness of processes of information co-operation of the subjects of management and educational process and subsystems of establishment connected with management, analysis, organization and co-ordination of information streams and arrays of data, information resources, formation and realization of information policy of SEE; use IS, IR, ICT, information products, machine and programme facilities to satisfy the necessities for information of the subjects; realization of organization strategy of the management of information streams with the use of modern computer and network technologies; the presence of information and communication connections between the components of subsystems, including linear, reverse and external functional and content information links with other frames of external social environment; the organization of arrangement of documents composition and optimization of document streams, variability of certain structural components - structure, functions, connections of control system and architecture of the information support; hierarchical efficiency and co-ordination of levels of management and self-government going on simultaneously with their autonomy; estimation criteria of efficiency of SEE management, that means that the set of aims and tasks makes it possible to verify their achievement [2; 5–9; 13; 14].

On the basis of the analysis of works of foreign scientists [1; 4; 11; 12–15] and on the basis of studying the practice of SEE management with the use of ICT we have come to a conclusion, that information management of the establishment as an open social and pedagogical system, has to be conducted by an administrative and managerial link, by the subjects of self-government and state public self-government institutions on the basis of legal, normative, pedagogical, administrative and other

types of socially oriented information about the state of the guided object and educational, information and communication, financial and economic processes and phenomena which must be constantly analyzed, brushed up, processed, corrected, passed and used in accordance with a purpose by the subjects of management; and taking into account the social and pedagogical conditions, that provides the increase of level of SEE organization.

Consequently, an information management is orientated to information activity, information systems, computer, information communication technologies, information resources, products, processes. It is not a wide usage of modern facilities of the computing engineering and telecommunication in the center of attention but technological operations and actions of subjects of information co-operation, in relation to arrange proper conditions for organization, working-out, maintenance and delivery, evaluation and use of information, providing for the system of guidance of information resources. Organization of information masses and information streams functioning with immanent processes of collection, working out, passing, systematization, storage of information with the purpose of its analysis and usage to develop, ground and make managerial decisions, information and communication processing on the qualitatively new level; introduction of new information and communication technologies, means of ICT and IS into the managerial activity are complex information processes determining the essence of information interaction of subjects at different hierarchical levels of the managerial system and specifics of information management of SEE. In this context the information management of secondary educational establishment is carried out by the use of information and reference SASS, information retrieval SASS, NIT, Internet technologies, network technologies, case technologies, in combination with telecommunication support of management process, by the information resources of the Internet; formation of banks and DB; creation of own banks of normative and directive information, formed on the basis of hypertext documents that are the most commonly used thematically oriented databases.

Conclusion. Thus, development of a new information society, passing to a prior scientific, technological and innovative development, introduction of ICT into all spheres of vital functions of the state, has determined the appearance and development of *new direction of scientific search* — information management in the sphere of SEE. It is defined that for the last quarter of the XIX century, the emergence and grounding of the production management as a scientific field and the following process of the development of information structure have resulted in appearance of its new kind – the information management. The information management in the sphere of SEE, as an area of scientific knowledge, has the specific features, concept and category instrument, object and subject of research which predetermines the expedience of defining it as the independent object of fundamental and applied researches in the conditions of development of information society in Ukraine.

Literature

1. Emporia State University School of Library and Information Management [Electronic resource] – Mode of access : URL: <http://www.slim.Emporia.edu>. – Title from a screen.
2. ENGLISH-UKRAINIAN DICTIONARY: У 2 V. / Compiler M. I. Balla. – К.: Osvita, 1996 – V 1. – P. 179, 703.
3. Information management [Electronic resource] – Mode of access : URL: http://en.wikipedia.org/wiki/Information_management
4. International Journal of Information Management – Elsevier [Electronic resource] – Mode of access : URL: [http:// www.journals.elsevier.com/international-jou](http://www.journals.elsevier.com/international-jou)
5. Kalinina L.M. Information management of general educational establishment: systems, processes, technologies: monogr. / L. M. Kalinina – К. : Informatodor, 2008. – 475 p.

6. Kalinina L.M. Information technology management of educational institutions : scientifically methodical manual / L. M. Kalinina. – Kh. : Publishing group «Osнова», 2005. – 159 p.
7. Kalinina L. M. Specificity of information management of educational institutions / L. M. Kalinina // Education and Manag.- 2003. – Т. 6, №1. – P. 47-66.
8. Kalinina L. M. System of the information providing management of general educational establishment : monogr. / L. M. Kalinina – K. Ajlant, 2005. – 275 p.
9. Kalinina L. M. The theoretical basis of the information management of educational institutions / L. M. Kalinina // Continuity in informatics training of future teachers of primary schools in the conditions of graduated high school : coll. National Scientific Workshop. – Khmelnytsky, 2002. – P. 89-91.
10. Langefors B. Distinction between data and Information. / Knowledge // Inf Age. – 1987. – 9, #2. – P. 89–91.
11. Portal EUROPA, sections information society, education, research and technology [Electronic resource] — Mode of access :
URL : [http:// europa. eu. Int / pol / educ / index_en.htm.](http://europa.eu.int/pol/educ/index_en.htm);
URL: [http://europa.eu.int/pol/rd/index_en.htm.](http://europa.eu.int/pol/rd/index_en.htm) – Title from a screen.
URL: [http:// europa.eu.int/information_society/index_en.htm.](http://europa.eu.int/information_society/index_en.htm)
12. University of Tennessee School of Information Science [Electronic resource] – Mode of access : URL: [http:// www.pepper.lis.utr.edu/.](http://www.pepper.lis.utr.edu/) – Title from a screen.
13. University of Toronto Faculty of Information Studies [Electronic resource] – Mode of access : URL: [http:// www.fis.utoronto.ca/.](http://www.fis.utoronto.ca/) – Title from a screen.
14. Vyvojove teorie informacnych systemic// rabenseifer A.// Inf. syst. – 1990. –19, №6. – pp.549–560.
15. Wigand, Rolf T., Picot, Arnold and Reichwald, Ralf (1997), Information, Organization and Management: Expanding Markets and Corporate Boundaries, Wiley & Sons