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## Assumptions on Allocation of Education Information Component

This article raises the issue of searching the assumptions based on which the informational component of the society in general and education subsystem in particular is allocated.

Given the extensive discussions of issues related to the search for the role and place in information in the broader spheres of society life, which are carried out in modern scientific community, it seems obvious to conduct the search for initial premises to highlight the information component of education derived from the modern current trends towards society consideration, including the ideas of society *information provision* and *information saturation*.

This article is based on the works of scholars such as Orlova M.I., "From information society to knowledge society: conceptualization of a new paradigm of civilization development", Krul A.S., "Information structure of social systems", Bolotov K.O., "Information as a philosophical category: ontological and epistemological aspects".

The purpose of this paper is to identify the key assumptions which may be used as a basis for selection and substantiation of education

information component.

The following abstracts are crucial for deployment of issues covered by this article:

1. The progressive increase in the volume and velocity of information flows, especially given the role of information technology in this process, appears as a clear trend in the past decade.

2. The emergence and development of the concepts of information society, in turn, acts as a response to social scientific subsystem to increase of the role and importance of information in society.

3. The extensive discussions around the information concepts entails shifting the focus of attention of many researchers, including the recognition of information as a subject of research of different areas of expertise, both technical and humanitarian, including the sociology, psychology and philosophy.

4. The intensification of research focused on information entails, in particular, the recognition of information as a parameter (impact factor) in relation to the socially significant objects and events, including the emergence of trends for recognition of the informational nature of social relations and informational nature of human consciousness.

One of the most debated trends in the status of modern society are the ideas of information provision significantly altering the possibilities of information circulation and, therefore, the impact of information on various aspects of society life. Moreover, the discussions are going on mostly not about the availability of aforesaid processes, but in relation to the magnitude of the resulting changes in the structure and nature of modern society. In extreme cases the absolutization of such changes leads to the recognition of a fundamentally new state of society, i.e. the information society.

In particular, M.I. Orlov writes that "The theoretical setting of social and philosophical theories of the second half of the 20th century is identification of the role of information in the changing economic, social and political structure of modern society." [1, p. 237]

Regardless of solution of the problem of these ideas reality, the fact that they have become widespread and significant attention paid to them allows determining the information as a certain impact factor, or even the determinant of certain social changes.

In this context, it is proper to cite Bolotova K.O.'s opinion that "Description of phenomenon information can be traced to the ancient philosophical and religious systems, which indicates the rootedness of

information phenomenon in being.” [2, p. 11]

Thus, the most obvious area of search for the main premises of allocation of the education information component is the modern concept of existence and development of society and its subsystems. Depending on the position, we have to consider two cases of search for such premises.

**The first case** is the search for assumptions with regard to the idea of development of a new type of society due to fundamental changes in its structure and the type of information-based social relations. In other words, it goes about the recognition of the “information society” as a special, fundamentally new form of society existence.

A similar opinion is held by Y. Masuda, noting that “... it will be the production of information and not the material product which will become the driving force behind the society formation and development.” [3, p. 29]

If we accept this idea of existence of the “information” society as a fundamentally new form of social life, the information nature of the education system, or, at least, a certain part of this system, follows from the very definition of the information society, since the determinant of social development in the concepts of “information” society is information.

However, the absolutization of one factor in the development of society can lead to the one-sided interpretation of the nature and mechanisms of development, so it is required to define a certain system of interconnected socially important factors jointly determining the development of all society dimensions.

Thus we can consistently find a place for information as one of the determining factors, while not appealing to the idea of formation of a new type of society based on its prevalence.

Furthermore, even without recognizing information as a determining factor of society development, we can justifiably recognize it as a factor of influence in respect of certain society dimensions. Thus, we come to the second group of its premises.

**The second case** is the search for assumptions from the standpoint of society development sustainability given the growing influence of information in the system of real structures and public relations. That is, if we perceive “information” society only from the standpoint of accelerating the development and dissemination of technology, i.e. as a society of information technology. Thus, considering the above factors, it will be more correct to use the term of the “*informative*” to this society. In this context, the premised of the information component of education

are found in the nature of information society. After all, the information society as a system, its subsystems, including the subsystems of science and education, get saturated with information.

However, given the uneven development of human society as a whole, the society information saturation can be considered not as a fact, but only as a trend generated by informatization processes.

So, in fact, one must speak not about “information” society or even “information-saturated” society, but rather a society tending to *information component deployment*.

The expansion of society information component is manifested in the following processes and phenomena:

1. increase the volume of information circulating in society;
2. increase in the rate of information flow circulation;
3. strengthening the information process dynamics;
4. the increasing role and importance of information as a resource, tool and leverage of influence;
5. information tendency towards becoming a determinant of development of certain events or processes in society, or at least a dominant;
6. dissemination of information impact on the increasing number of sides and aspects of public life.

Even at the current stage of the society informatization one can observe, first, its acceleration, and second, its extension to an increasing number of human life aspects.

The result of this process today are the trends such as acceleration of information exchange (information flow traffic) and the growing increase in the volume of information circulating in society. These trends themselves encourage paying special attention to the phenomenon of information. Moreover, given that this information is the subject and object of education (and in the case of knowledge it is also its result), and the exchange of information (information flow traffic) is a way of existence (conducting) of the education process, the attention to the information component of education is an extremely important prerequisite not only for its compliance with the current needs, but also for understanding of its inherent nature.

Thus, in line with the development of information technology, we have to admit the acceleration of information exchange in society and the increase in the amounts of information circulating therein. The speed of information flows and their capacity increases, and so does the amount

of information accumulated in society and its circulation dynamics. The role of information and information influence itself is getting stronger. The information begins to affect those areas and segments in which its impact used to be negligible. This demonstrates the trends of society information component deployment. Hence the necessity of deployment of an information component of its subsystems, particularly the education subsystem as a field which initially is information-based.

The information on the one hand becomes an important lever of influence and control in society; the specific informational tools of influence and control are developed. On the other hand, the access to information and the speed of its circulation increase the overall awareness in society, making it difficult to influence and control the same.

Thus, we can conclude that despite specific findings regarding the society *"information provision"* or *"information saturation"*, the development trends of information technology and the increasing amounts of information in society is the sufficient premise to determine the information as an important determinant of society as a whole, and thus education in particular.

However, the two above named areas (information provision and information saturation) to search for the premises of allocation of the education information component are located mainly on the meta-level in relation to the education system. After all, they are derived from the state of society and the main trends of its development, and then are transposed to the education system as a part of society.

In addition, the role and place of information in society are defined largely through an analysis of external manifestations of information and information-determined processes. That is, it is the reinforcement of external manifestations of the aforesaid processes which leads to an increased interest of the scientific community to the phenomenon of information; we see the consequences and begin to look for their causes.

Thus, we have, on the one hand, to recognize the actual availability of the premise for allocation of the education information component based on the aforesaid tendencies of society development. However, on the other hand, we have to admit their certain *"foreignness"* to the education system.

Thus, the rationale of the information component of society in general and education in particular based on consideration of the above concepts allows to allocate only external premises to allocation of the information component. This group of premises is a clear and obvious, so it can be

taken as an *explicit* measurement of information component.

However, it is required to search for the inherent existence of the information component of both society and education based on their inner essence of existence and development. In this case, we focus on finding the *implicit* information component not manifested outside and not expressed directly.

It is highly important to prove not only the presence of some implicit information saturation of society in general and education in particular, but information saturation as an *inherent property* of the society system and education subsystems, integral and inherent to them by their very nature.

To find the internal essential premises of information component allocation, it is appropriate to cite the following opinion of Krul A.S., "The social system creates the most convenient ways of interaction inside the system and the environment, creates elements, organizations, information subsystems determining all internal and external information system interactions. This is a certain chain of the interconnected system elements constantly involved in information interaction with the environment, creating the resources, processing them, keeping the required elements and removing waste. Each system element, while performing its function, is simultaneously involved in information interaction, because it is impossible without information exchange." [4, p. 14]

So we see that the information component is a required part of society. Given the necessary information exchange between people, i.e. human communication, language and person's information exchange with the environment, objective reality, because the world is given to us through our sense organs and we perceive the information signals of the surrounding world, so the information component is necessarily present in society at any stage of its development. Thus, a person as an open system and society itself as an open system shall necessarily exchange information, and therefore have an information component.

On this occasion Krul A.S. notes that "The information structure is a set of system elements determining the external and internal information interactions involved in the production and use of social information. The information structure study should cover not only the information processes, but also the social. While the information does not exist without the media, the information architecture does not exist without the social structure and social processes which are its expression." [4, p. 14]

Thus, the further the society develops, the greater the amount of

information accumulated within the same, the more complex is this information both by content and form, and the more integral it is.

Krul A.S. writes that "The information structure formation factors are the internal factors, i.e. the kind of the social system, its material base, a set of social systems, information capabilities and information needs and external, i.e. social environment and information resources of the neighboring social systems" [4, p.15]

From here we can conclude that the evolution of social systems is necessarily accompanied with the evolution of their corresponding information structures. Thus, at each stage of society development we will deal with the corresponding information structure. Similarly, when the information structure does not correspond to the information relations existing in the society (and therefore the information needs) we get a contradiction that can be seen as the driving force of social development.

Next Krul A.S. says that "Information processes occur within the existing social relations. On the one hand, the social relations define the information exchange conditions. On the other hand, it is the information exchange that creates social relations, since the information available in all social interactions exercises a direct impact on the nature and dynamics of interaction" [4, p.17]

The idea of information structure evolution according to the level of society can be the key to understanding the contemporary society informatization, because the growing information needs caused by the society development lead to a proliferation of information structure, i.e. information. On the other hand, due to the intensification of information exchange caused by informatization increases the reverse effect of information on public relations, and thus causes a change in the same. In extreme cases this may be a reason for change of the essence of social relations, i.e. information society development. In general, we can speak of the certain trends related to essential changes in society via acquisition of informatized form by them.

The information society, in most cases, is postulated as a radically new form of society, but its certain information saturation is not really a new quality of society acquired as a result of certain changes, but is its essential feature. Human society is information-saturated from its very beginning by nature, because the society can exist only if there is communication, communication, i.e. information exchange.

In particular, Wiener says "In fact, the community extends only to the extent to which the actual transfer of information extends." [5, p. 239]



In addition, not only human society but also any community is possible only subject to the availability of information exchange (e.g. the pack of animals necessarily maintain a certain communication, a certain information exchange, although this exchange may be embodied in many different forms, such as special moves (dance) of bees transfers information and call or warn the other animals).

Further, not only society or community as the complex living systems, but also any system in general can exist only if there is certain information communication (exchange) between its subsystems (components). Thus, the information saturation is a required essential characteristics of the system.

The human society provides for communication in various forms and on various levels, verbal and non-verbal communication etc., however, all these forms are special forms (partial cases) of information exchange.

Since the philosophical approach to the study of society requires determination of the most general laws and principles of its existence and development, so we should not consider the specific manifestations and particular cases, but discover their universal premises. The information exchange as a universal principle unites and explains the issues of both social structures and social relations, as well as the other manifestations of social life on a common basis.

Thus, summarizing the above, it should be noted that it is appropriate to speak not about the presence or absence of information saturation signs of the society but the level of information saturation of such society at every stage of its development and in every fragment of its system, as well as the conformity of information saturation level to the development of information technology.

Besides information technology at the level of society, the issues of education informatization and the accompanying issues of information saturation and information in general are debated extensively. Such attention to informatization, i.e. distribution of information technology in education, on the one hand, draws attention to the relevance of information and information saturation in education, and on the other hand reduces the role of information in education only to the component of information technology.

It should be noted that information is a necessary component of education regardless of the level of information technology use in education (technical means of informatization). This thesis follows from the very nature of education as a mechanism (social phenomenon) aimed



at transfer and preservation of information existing in the society (along with the culture in general, e.g. art etc.).

One of the important premises of allocating the information component of education is to understand the availability of the information component of human society is its inherent component stemming from the very nature of human society.

The controversy regarding the society informatization or transfer to the so-called "information" society is mostly associated with acceleration of information technology development and the increasing importance of information resources in the society development. At the same time, information is a necessary part of society accompanying the same throughout its development. The information component is present in the system of society regardless of its development degree or historical stage. This stems firstly from the inherent presence (required for the human society existence). And here it is worth mentioning the thesis of informational nature of human consciousness.

In particular, Shtanko V.I. expresses the following opinion "The thinking is identical to the information process or is its particular case." Then he adds "... all aspects of mental activity can be represented as a set of "elementary information processes" and rules of handling the same..." [6, p.117].

Besides, according to Dubrovskiy D.I., "Every phenomenon of consciousness (as a phenomenon of subjective reality) is certain information inherent in a particular social individual." [7, p.139]

Indeed, the individual's consciousness is a reflection of objective reality subjectivized by this individual, and information from a philosophical point of view is usually defined as a reflection.

Certainly, the recognition of a purely informative nature of consciousness by some researchers is an extreme case of information determinism in relation to consciousness, however, even following a moderate position, it is impossible to completely reject the information saturation as one of the signs of consciousness, and information as its contents.

To sum up, it should be noted that the presence of information saturation as a sign of consciousness on the one hand, and information exchange as the characteristics of social communication on the other hand, brings us to the isolation of a group of premises which can be defined as a group of internal, implicit premises of allocation of society information component in general and education in particular.

The next thing which has to be emphasized is the essence of education as a social phenomenon. Above it was considered that the essence of the education institution is the transfer of accumulated information within the society. So the information is the subject and the result of education.

Thus, in combination with the implicit premises allocated above, we should designate the information saturation as an integral, intrinsically inherent, or even essential feature of education. Thus, we can note that the information component is not a mere part of education but its required essential component.

As a conclusion, we should note the following:

The assumptions of allocation of the society information component in general and education subsystem in particular can be divided into two general groups by their nature.

The explicit assumptions are determined based on the trend towards increase of information volumes, its circulation rate and development of information technology observed in the society system and education subsystem, respectively.

This group of premises defines the explicit measurement of information component of society in general and education in particular.

The implicit assumptions are determined by the inherent availability of internal (communication) and external (environmental) information exchange in society, as well as information exchange of each individual implemented not only in communication but also in the processes of thinking (as an internal information process) and knowledge (the process of information exchange with the environment).

These assumptions determine the implicit dimension of society information component in general and education in particular.

According to the groups of assumptions for information component allocation noted above, we can identify the internal (implicit) and external (explicit) information saturation, respectively.

Meanwhile, the implicit information saturation serves as an essential feature of society and its subsystems regardless of its development level and is related to the informational nature of consciousness and communication, as well information exchange as a sign of any open system.

The explicit information saturation depends on the level of society development and its subsystems and thus the level of awareness and communication in the society. It is the explicit information saturation development that leads to the emergence and development of the means

of storage and transmission of information (information technology), that is the informatization of society and its subsystems, including the education subsystem.

Within the range of problems this article the information provision and information saturation of society and its subsystems can be seen in the context of the dialectics of form and content in relation to the existence and development of society.

The education information component, on the one hand, can be allocated according to the information component of society as a system. Since education is a society subsystem, it shall necessarily conform to the system as a whole, i.e. based on the premises external to the education subsystem.

On the other hand, the education information component can be allocated in view of the peculiarities of the education subsystem. First, the education serves as a mechanism for information transmission in society. Second, the information is the subject and the result of education, i.e. based on the premises internal with respect to the education subsystems.

Thus, we can determine the presence of a multilevel set of assumptions for allocation of the education information component.

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*Abstracts*

**ОЛЕНА ПИСАРЕНКО. Вихідні положення виділення інформаційної складової освіти.** У статті розглядаються питання пошуку вихідних положень виділення інформаційної складової освіти. Визначено основні групи таких положень та обґрунтовано необхідність наявності інформаційної складової.

**Ключові слова:** інформаційне суспільство, інформатизоване суспільство, інформаційна складова, інформація, освіта.

**OLENA PYSARENKO. Założenia wyjściowe wydzielenia informacyjnego komponentu edukacji.** W artykule omówiono szereg zagadnień dotyczących poszukiwania początkowych danych wydzielenia informacyjnego komponentu edukacji. Opisano główne grupy tych założeń oraz uzasadniono konieczność istnienia komponentu informacyjnego w edukacji.

**Słowa kluczowe:** społeczeństwo informacyjne, społeczeństwo skomputeryzowane, składnik informacyjny, informacja, edukacja.

**ЕЛЕНА ПИСАРЕНКО Е.А. Исходные положения выделения информационной составляющей образования.** В статье рассмотрены вопросы поиска исходных положений выделения информационной составляющей образования. Определены основные группы таких положений и обоснована необходимость наличия информационной составляющей.

**Ключевые слова:** информационное общество, информатизированное общество, информационная составляющая, информация, образование.

**OLENA PYSARENKO. Assumptions on allocation of education information component.** This article covers several issues of searching the assumptions for allocation of education information component. The main groups of such assumptions are allocated and the inherent presence of the very information component is substantiated.

**Key words:** information society, information-saturated society, information component, information, education.