Informal media learning development through Web 2.0

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Abstract. This article deals with general approaches to the definition of the formal, non-formal, informal media learning. Under the studied literature the general description of the informal learning from the perspective of applying the Web 2.0 technologies have been identified. The key features of the informal media leaning as a modern educational trend have been shown. A brief description of the elements of the informal media environment is given. The theoretical model of the informal media learning as a set of submodels of the content presentation, collaborative learning, teaching interaction, trainee's reflection, and teaching design are separated.

Introduction

Nowadays spreading the information flow could be noted, which results in changing the information acquisition technologies. These transformations are reflected in education; a search for the new teaching strategies is required, which are relevant to the processes of stimulating the knowledge creation.

The means of disseminating the knowledge also vary considerably. Since the ancient times, the creation and transfer of the knowledge have been based on the collaboration between individuals. However, because of the Internet being widely spread, as well as due to the large amount of information, the way of knowledge has been cardinally changed. Even in the second half of 90s of the XX century such researchers as Lévy, P., argued that a new source of the collective mind would be the cyberspace [1]. The educational space has been significantly expanded, which now is no longer limited to the specialized education institutions, such as a school and an university.

The expansion of the educational space and educational strategies led to the introduction of the non-formal and informal learning concepts [2,3,4]. It is relatively new models of the professional development which describe a lot of various forms of learning running apart from the professor-led programs, including reading the literature, self-learning, the materials and systems in favour of the effectiveness, coaching, the participation in the Web-based education communities.

Conceptual Definition

The review of the literature conducted by us [2,3,4,5,6] for the purpose of defining the concepts of the formal, non-formal and informal learning has shown that there is no clear definition of these concepts. In our opinion such state of things is, firstly,

due to the relative "youth" of the concept of the non-formal and informal learning. Secondly, the definitions are determined in the context of the auteur stands, scholar schools, which often contradict one another. Thirdly, the debate on the definition of these concepts contains the contradictory statements about the superiority of one type of learning over another one. Fourthly, the definitions of the formal, non-formal and informal learning depend on the historical national education systems.

Nevertheless, we have identified some approaches to defining the formal, non-formal and informal learning.

The formal learning is the learning, which is usually carried out in the education institutions. The formal learning is the structured one (in the context of the learning objectives, period or support) and results in graduation or certification. The formal learning is intentional relating to the trainee. [2]

The non-formal learning could be defined in two ways. On the one hand, it is the learning which is carried out outside the education institution and typically does not lead to the issuance of any diplomas or certificates. [2] On the other hand, the non-formal learning could take place at courses or workshops with the predetermined program and the assigned professor. But participation in such programs is voluntary and more discretionary, and the education plan could be more personally oriented and reflect the interests of the certain trainee. [4] In any case, this type of learning is the structured one (in the context of the learning objectives, period or support). The non-formal learning is intentional relating to the trainee.

The definition of the informal learning is the most difficult one. Many American researches resist the concept "informal". Thus, for example, Eraut [5], and Billett [3] claim that all learning is carried out in

the context of the public organizations or communities which have a formal structure. For example, learing in the workplace is based on the formal agreements between the employees. The authors believe that the use of the concept "informal" enters into a dangerous delusion.

In the regulations of the European Union [2] the informal learning is classified as the learning which results from the every day activities associated with the work, family or vacation. It is not the structured (in the context of the learning objectives, period or support) learning, and usually does not lead to certification. The informal learning could be intentional but in most cases it is the unintentional (or accidental) one.

According to the works [4], we believe that the informal education or learning occurs when the professors or mentors take responsibility for support in more spontaneous and random teaching situations where the education process does not tend to the intended organization. The informal learning is any activity related to the development of knowledge, skills and competencies, which occurs without the external assessment according to the certain education criteria. The informal learning could be carried out in any context out of the predetermined programs of the education institution. The key concepts of the informal learning (eg, objectives, content, learning tools, duration, evaluation) are determined by the individual participants in the informal learning. The informal learning, from our point of view, best of all manifest itself in various forms of mentorship and organizing the independent work.

The logic of our research requires the specification of the key features of the informal learning:

• unforeseen development of the experience as a result of learning, as an incidental by-product which could or could not be consciously recognized;

• solving the specific current working problems, which are used for self-learning and self-development;

• carried out because of the own initiative and independently planned activity on the experience development- including the use of the mass media, the establishment of business relations with the mentor, tutor, the participation in the conferences, consulting, the use of the social network services;

• various constructs which promote self-education in order to improve the professional skills and competencies;

• planning the learning, which is often associated with the career plans, or the performance evaluation;

• the combination of less organized experience with the structured opportunities which could contribute to the development of this experience;

• the developed mentorship programs or learning in the work place;

• relevant courses organized by both the education institution, and as the self-learning, using or without modern technologies.

Although the informal learning is not reduced to the use of the Internet technologies, this concept has gone further due to the Internet. Therefore, it is worthwhile to find the informal media learning, under which we mean different strategies of the informal learning self-regulated by the information, including Internet-technologies.

Role of the Web 2.0 technologies in the informal media learning development

Nowadays the Internet-technologies are closely related to the term "Web 2.0", introduced by O'Reilly, T. [7]. Without going into the analysis of this term, we will emphasize the main features of Web 2.0. The spot of such technologies is the user himself who is able to communicate, learn, contribute to and participate. At the same time, users are no longer just readers, viewers or customers. They have an opportunity to become the active content producers. During the cooperation the authors could exchange not only the knowledge, but also the roles. The Web 2.0 tools have contributed to the development of other concepts, such as the "open education", "open knowledge", "open electronic education resources" and the development of the concepts of the open, distance and e-learning.

The application of the Web 2.0 technologies in the informal learning leads to the creation of the informal media environment. According to the works of Efimova, L., & Fiedler, S. [8], we believe that the characteristics of such environment are:

1. Learning from different perspectives: social networks support the exchange of ideas, as well as allow finding the like-minded people. In addition, the social networks make it easier to establish the relations between the people of the same interests. They also help to simplify developing the relations between the people of similar interests. Such system is both the open and extensible one, and supports the diversity and integration of different points of view and perspectives.

2. Self-organization and collaborative learning: social network tools help to create the personalized learning environment for their authors' learning. At the same time the uniform learning flow or style is not established. The simultaneously studied trainees are not alone and could get feedback which helps to achieve their own learning objectives and to develop their own ideas.

3. Distributed digital learning: while regularly reading the Wiki, forums or blogs, the newcomers have a chance to learn from the experts. At the same time,

they could actively participate in the discussion beyond the geographical and thematic boundaries.

4. Supporting the development of the learning meta-skills: the blogs and collaborative learning tools contribute to the development of the learning ability ("the skill of learning"), through the publication of the own thoughts and considerations, the content becomes available for the evaluation as well as for the further development, thereby the skills of self-observation and self-analysis are improved.

5. Social networks support the reflexive writing: in the social networks the simple but effective and reliable encoding standards are used which allow modelling the flows of content, feedback and monitoring procedure.

Elements of the Informal Media Environment

The review of the literature on the computer-mediated communication [9, 10] has allowed us to identify the main elements of the informal media environment, which are a set of the interrelated models:

- the model of the content presentation
- the model of the collaborative learning
- the model of the teaching interaction
- the model of the trainee's reflection
- the model of the teaching design;

The *model of the content presentation* is responsible for the structure layout and the content of all media education materials. This model is built using the didactic and semantic content layout. The body of the content is ideally presented as the complex intellectual information, which causes the deep thinking by students, and which is to a great or lesser extent the equality of the professor and the student.

While implementing the traditional formal education program the professor naturally manages the course content, breaking it into the logical fragments. In the informal media learning the associated information segments are not so obvious. Structuring the teaching information in the media learning is an important element of the computer-based and teaching system. Such system contributes to establishing the more solid foundation for learning, resulting in a higher level of knowledge and contributes to the development of the critical thinking.

The *collaborative learning model* assumes the implementation of the interaction between the trainees in the informal and information environment. The studies of the foreign researchers emphasize that the student-to-student interaction could lead to the stronger learning, the community creation, the exchange of ideas, the analysis of the concept development, and promotes the development of the critical thinking skills. In the early forms of distance learning the attention was not paid to the establishment of the learning communities. In the modern Internet-education the role of the Web-community has

constantly grown. Establishing the community in the online-course includes the shift from the learning and professor management issues to extension of the students' possibilities as to the creation of the socially constructed project requiring the mutual relations. [11] The learning in the Web-communities is seen as a process of constructing the knowledge, in which each participant contributes to and receives his benefits from the ideas of the others.

Accordingly, the professors are an integral part of the teaching community and should play an active role in modelling and facilitating the Internet-interaction. The instructor could fuel confidence by encouraging the students to support each other and to exchange the experience.

The *model of the teaching interaction* describes the interaction between the trainee and the instructor. The interaction between the instructor and the trainee in the informal media environment could be manifested in the form of the informal e-mails, chats, forums, comments, or in the more formal style of the recorded video- or audio- conferences. Regardless of the communication form, the meaning of the instructor's interaction with the students is determined by the presence of feedback to check the opinions, works, to bring the technical and teaching support.

In the informal media learning the instructors are not the spot, as the students are able to control many aspects of learning: which way, what, when and where they could complete the educational course. The control over the trainees is carried out within the parameters set by the professor, but the students have also the access to the numerous resources and are flexible in learning the training material. As a rule, the professor provides a convenient mode and sets the tone for the e-learning based on modelling the required behaviour. In addition, the teacher could write in an informal style, support, ask additional questions and to use humour to create a positive learning environment.

The *model of the trainee's reflection* is derived from one of the main characteristics of the Web 2.0 technologies use - the development of the reflexive writing. In particular, Walther, J. B. [12] describes the hyper-personal relations formed in the modern Internet-learning. As it is well known, the interactions between the users in the Internet are carried out on the basis of the text interaction. However, according to the author, it does not only reduce the intercommunication, but even strengthens it. Walter identifies four main elements of the hyper-personal relations during the development of the reflexive writing. Firstly, the actors create the idealized concepts of the message recipient. Secondly, the agents could choose what will be opened for the other agents, what results in that the actors create an idealized image of themselves for the others. Thirdly, the asynchronous communication channels

allow users to edit the communication information themselves for the more spontaneous face-to-face interaction. Finally, the feedback is established by the idealized actors' concepts of the others and themselves. This is a reciprocal process in which the similarity between the actors is increased, and the differences are minimized.

The *model of the teaching design* describes the system of the graphical user interface or the "man-computer" interface, focusing on the interaction between the student and the certain technologies, platforms and applications. The computer interface is responsible for the concept visualization, transferring the order, clarifying the meaning, directing the attention, stimulates the interest, facilitates the interaction, in general, ensures the climate and promotes the trainee's involvement. The conflicting, inconvenient user interface could have a negative impact on the search for the relevant information, interaction with the content and the trainee's problems solving. Theoretically, the interface should promote learning the content, not the technology of the certain software development.

Visually organized discussions and clear storylines allow trainees to participate more sequentially in the education process. The professors and designers should also consider how to combine the text, audio, video, images and animation for the effective interface-interaction. Van Dusen, G.C. states that the technology itself, for example, the multimedia or the hypertext, does not teach, however, it could provide the effective tools for learning [13]. The researches of Mayer, R. in the field of the multimedia component design for reducing the cognitive load and the learning support have shown that the simultaneous presentation of the narrative and animation provides the dialogue in a conversational manner what allows the trainees to control the learning rate. [14]

Conclusion

The available models of the informal media learning require the establishment of the effective teaching methods. Such models, in our opinion, could be the OOMC models - the on-line open mass courses and the Peer-2-Peer model (establishing the support by peers or colleagues). The further researches will be intended to build such models, to identify and to prove the conditions of its implementation effectiveness.

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