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DIALOGICAL INTERACTION: CHARCTERSITICS AND IMPLEMENTATION IN DISTANCE LEARNING

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Abstract

The article is devoted to the rationale of the dialogical principle in distance learning. The present study considers realization of effective interaction to be the key issue of distance learning, involving feedback and organization of interactive space for dialogue. The more dialogical interactions will be constructed and implemented while creating the framework of distance learning, the more qualitative results will be achieved. The article provides examples of dialogue organization while developing computer systems of distance learning and the possibility of its realization for students' continuous assessment. Despite the fact that the disposition toward dialogical interaction in distance learning has not so far become a common tendency for the learning process participants the future of distance learning is assumed to be closely connected with the realization of the dialogical principle.

Keywords

Dialogue, interaction, distance learning

Introduction

The problem of the organization of effective dialogical interaction in distance learning has always been of key importance in various socio-humanitarian theories and practical pedagogy. Its relevance stems from dialogical interaction of the learning process actors bearing a direct relation to their striving for learning and teaching, for cognition, for reproduction of distance learning space at large. Nowadays education platforms promoting online courses have over 1.5 billion registered learners and this number is on the rise. Those who support distance learning mention among its strong points increasing effectiveness and high quality of education, a possibility to educate a greater amount of people, a customized approach based on the personal learning curve, better control of material assimilation, a wide range of extra courses and modules, etc.

Problem statement

Modern educational trends make it clear that distance learning is in high demand and keeps developing. It should be noted that distance learning should be based on the principles of dialogical interaction and organization of interactive education space for dialogue. Researchers are divided as to the possibility of realization of these principles. For instance, opponents, critics and adversaries of distance learning expansion draw attention to the impossibility of creating natural dialogical interaction at a distance. One of the main arguments of distance learning opponents is that it is impossible to create natural dialogical interaction outside direct communication. The main principle of "natural" dialogue discourse in distance learning is disregarded which leads to impersonal transferring of information. Thus, the current problem is to understand the idea that one of the key issues of distance learning is organization and implementation of effective interaction where there is feedback and dialogue

principles are realized. No doubt, distance learning is marked by certain characteristics of organization and support of dialogical interaction and education space for dialogue. The effectiveness of dialogical interaction principles and how complete education space for dialogue has been formed were considered in the present study.

Philosophic aspects of dialogue and the dialogical principle

To clarify the point in question one should consider the phenomena of social interaction, dialogueness and space for dialogue. Indeed, the problem of interaction and the dialogic nature interaction belongs to the phenomena of social relations and has frequently been touched upon in social theory in general and in pedagogy and particularly in the theory of the organization of education. Relying on the theoretical works of Leontyev /**1**/, Kagan /**2**/, etc., one might as well say that social interaction is defined by a dialogue of actors and ensures integration and harmonization of social structures while being aimed at strategy formulation of common actions of individuals, social groups and communities. The origin of social interaction lies in communication activity while its extension is realized through common actions. Interaction facilitates the integration of single parts into a whole, and the fragmented entity begins to exist as a complete formation. Dialogue is ultimately the essence of social interaction which allows to combine phenomenology with metaphysics in the experience of daily interaction of actors. In dialogical interaction actors do not forcedly submit to the will of a strong external center, but strive for organizing common actions which allows to have in mind their achieving of a significantly different level as a result of interaction. The essence of the dialogue is creation of something general and new by combining opposites. Non-identical social actors can enter into dialogue relations with the result that each of them is realized in some new capacity. Dialogue on all levels of subject realization has an invariant structure: actors, subject matter, a range of common ideas. This structure is reproduced both on an inner dialogue scale, on the level of interpersonal communication and in a dialogue of social groups. Clearly, the dialogue paradigm is fully implemented in distance learning whereas full-time education cannot get along without strong centrism in the form of management and supervision systems. Only in particular cases can dialogue be considered as a communicative attitude by which social actors attempt to find the truth (debate, argument). In a dialogue actors strive to reach a compromise whose truth is relative and significant only for these actors. In assuming a dialogue attitude it is not that important to prove the primacy of one's opinions but to try to understand the opponent and side with him/her. One might say that dialogue means driving at comprehension and mutual understanding. Thus, if the aim of a communication act (debate, argumentation) suggests movement toward some absolute truth, then the aim of dialogue is truth-compromise which allows for interaction based on understanding. As a dialogue in distance learning is directly conducted between a student and a teacher, the latter deals with one student at any given time and answers only his/her questions, it's not unexpected that the chance of generation of understanding is significantly higher here than in academic education. In this article the formation of dialogical interaction is considered as development of strategy of common actions by including them into the educational system. A genuine dialogue is a complex phenomenon. Convergent views seem to be beneficial up to a certain point as like-mindedness neither encourages progress nor instigates unexpected twist of ideas. People who think identically of all issues cannot act as opponents, argue about matters of principle and for this reason can only reproduce something old without generating new ideas and developing and progressing. A true dialogue requires support in the form of contradictions between experience and theory, management and freedom, i.e. in the form of chaos overcoming which one can create something new. That is why the development and transition of an individual to a whole new level of thought or action occurs in the harmonious unity between predetermination and unpredictability which is perfectly implemented in distance learning. That is the form of education where a student is freed from a lot of conventions, therefore, is open to creative work. Even a most shy but gifted person can hold full-fledged discussions with a teacher and defend his/her point of view which couldn't be done in a

traditional classroom. One should consider the phenomenon of social space generated by dialogical interaction. We assume social space to be a symbolic system displaying itself when reflecting symbols in an actor's conscience and constructing semantic contexts which enables social actors to interact. Dialogical interaction is always realized in social space while the latter is not a topological place of a social actor's existence. The main characteristic of social space is that it may not have physical location, being distanced and indirect. It is our opinion that social space is by essence connected with dialogical interaction and whereas direct interactions of actors unfold in terms of some personally predetermined space, indirect interactions act as a space constructing factor.

Dialogue and the dialogical principle in distance learning

The space of distance learning is the most striking and indisputable example of the formation of mediated social space. One of its constructing factors is a wide and multifaceted network of dialogical interactions. This space is not built by material objects but by people with their system of social relations. It compares favorably with the direct process of education by the fact that it is "always around," "always with you," semantic meanings it produces are person-oriented. Well-organized social space of distance learning is an important condition of the efficiency enhancement of this modern and dynamically developing kind of education. The more dialogical interactions will be constructed and realized at its creation the more qualitative result will be achieved. Thus, having studied the theoretical grounds and specific features of dialogical interaction and formation of the distance learning space we found it necessary to practically realize the ideas mentioned above. Clearly, the possibility of establishing a wide network of dialogical interactions should be integrated in during the process of organization of all distance learning components. The possibilities of pedagogic control, which is a necessary and psychologically important stage of any education process, are addressed in more detail below. Currently, first in English speaking countries and later in Russia the most widespread system of monitoring and assessment of students' academic achievements in all education systems and at all levels is the rating monitoring system with a corresponding scale of grades. From the assessment point of view the following parameters are of primary importance: a point system, representing a student's current level of training both relatively (among a group, in comparison with the previous results) and in absolute numbers; priority of the most objective monitoring techniques; visibility of comparison of current academic records with other periods of studies and specification of a student's place among others studying the same course. The rating monitoring system is regulated by a set of basic and didactic principles among which we can point out the dialogical principle. In distance learning this principle is refracted in the functions of the rating system identified by a number of scientists, including Teltevskaya /**3**/. The function of cognitive activity management necessary for submitting feedback is of particular importance in realizing the dialogical principle. Such feedback serves as a basis of the dialogue of the education process participants, as a ground to make adjustments in the learning process, improving its content, organizational forms and teaching methods, monitoring and managing students' cognitive activity. The educational function manifests itself in pedagogically appropriate and methodologically correct monitoring system which, on the one hand, identifies how well a student has grasped the material covered and, on the other hand, contributes to better increasing, enhancing and ingraining of knowledge. It may appear that in such a case a dialogue might not take place as a student is obliged to bend to the will of education providers. However, it is in distance learning, perceived by participants as an educational service which you can cancel if you are not satisfied with the result, that all parties strive for organizing common activities. This intention makes the basis for dialogical interaction. The development function of a rating monitoring system in distance learning is defined by promotion of students' cognitive activities, intellectual growth, enhancement of thinking and speech, mastering useful learning skills. Certainly, it is impossible to implement this function without a teacher-student dialogical interaction. The nurturing function helps develop student's willpower and a range of other qualities required for a future professional. Furthermore, a clear monitoring system, a person-centered approach

and impartial assessment are believed to be of considerable importance. The purpose of the organizing function is to arrange for students to realize the necessity of systematic and daily work in order to assimilate and master their knowledge and skills, as well as to mobilize their intellectual efforts. The summarizing function is to define the efficiency of training organization and delivery, the optimal choice of training forms, methods and tools. It is due to the summarizing monitoring function in distance learning that dialogical interaction can be implemented in which case actors of a dialogue will be willing to reach a compromise whose truth is of value exactly for them. On this occasion, a teacher acts on behalf of a provider of distance learning that finds it important to understand a student and take his side. Such a dialogue can serve the cause of truth on the basis of which there can take place further interaction of the involved parties manifesting itself in developing, enhancing the attractiveness and efficiency of distance learning. The implementation of a monitoring system in distance learning is addressed in a number of research works, with the authors initially not aiming to organize dialogical interaction eventually realizing its necessity. Thus, Schumakov /**4**/ thinks that conventional testing should be accompanied by real-time dialogue communication with a teacher (chat session). Kozlov /**5**/ is certain that a monitoring system should take into consideration a high probability of students' attempts to falsify the results of distance learning. We think that impartiality of assessment can be increased using various types of control, making it multistage and including a teacher-student interaction in a virtual workspace. The employment of a rating system may solve this problem. D.F. Romanenkova describes a positive experience of a rating system in distance learning in /**6**/. The author's results are indicative of the effectiveness of such control in increasing the efficiency of distance learning, of the teacher's possibility to obtain feedback and adjust the learning process in accordance with the information gained. To organize a monitoring system with a teacher-student dialogue option the scientists /**7**/ use information educational environment of distance learning combining off-line technology (the tools of software "Adobe Acrobat Connect Pro") and online technology (learning platform "Moodle").

Implementation of the dialogical principle in distance education

The necessity and possibility of implementing the dialogue interaction provide the basis for the majority of distance learning systems developed in recent years and successfully use /**8**/. Since the effective work of distance education is difficult to imagine without functioning of the systems of that kind, we consider a mathematical model of the algorithm, which enables realizing the dialogical principle in distance learning in more detail. This model should be adapted to the student, and therefore, when developing, it is rational to take into account the psychological patterns of assimilation of knowledge that make it possible to increase the effectiveness of the learning process. Students organize their mental activities in different ways with various cogitative operations to be preferred: some are ready to learn a set of facts and forget them instantly and others analyze each topic in detail, without too much entering into the nature of the phenomena. A person who is an explorer by nature delves into the essence of the subject starting with a guess about the events under consideration and then proceeding to the proof arguments. With respect to the nature of the mental activity performed during the study of material, the methods for mastery of the material have been proposed to divide into three steps: the study began with superficial acquaintance with an object that included learning about its form; the second step was deeper examination of the features and characteristics of the object; and in the third step, an analogy was used as a method of cognition. When constructing a preliminary model of the student, each learning method was accompanied by a set of specific teacher's recommendations for the student to take the course. This enabled implementing a dialogue with each student, taking into account his/her psychological characteristics. Such dialogue became possible when applying the individual model of a student built on the methods of modeling the behavior of a human operator. The method was based on the description of the behavior by a fuzzy nondeterministic automaton:

$$\mathbf{A} = \langle \mathbf{U}, \mathbf{X}, \mathbf{Y}, \mathbf{So}, \boldsymbol{\delta}, \boldsymbol{\sigma} \rangle, \quad (1)$$

where $\mathbf{U} = \{U_1, U_2, ..., U_m\}$ is the finite set of inputs;

$\mathbf{X} = \{X_1, X_2, ..., X_n\}$ is the finite set of states;

$\mathbf{Y} = \{Y_1, \Upsilon_2, ..., Y_p\}$ is the finite set of outputs;

So is the initial state;

δ: **X**×**U**×**X** → [0.1] is the transition function; and

σ: **X**×**U**×**Y** → L is the output function.

The student model was built for each course of training on the basis of the practical teacher's experience of students taking this course in the traditional education system. Here, the **X** set was considered as a set of modules, on which the course was divided. Being considered in this way, the learning purpose was decomposed into *i*-number of serial sub-tasks (with respect to the time of mastering the material). The X_i was interpreted as a set of possible test results after student's studying of the *i*-th module; Y_j, $j \in \mathbf{J}=\{1,..., p\}$ was a set of the time intervals for studying; and *L* was considered as expenses for the implementation of the selected method of mastering the material in the Y_j time interval. It was obvious that *m* was equal to *n* in the type of automaton considered and could be interpreted as the number of successive steps to achieve the goal. In accordance with (1), the δ function generated a set of fuzzy transition matrices: $T_u = \{\delta_{X_i X_j}(\mathbf{U})\}$, $1 \le i \le j \le n$ and the **σ** function generated a fuzzy output matrix $\boldsymbol{\sigma} = \{\sigma_{X_i Y_j}(\mathbf{U})\}$,$1 \le i \le n$, $1 \le j \ge p$. Among many automaton states, a set of final X_n states was distinguished. We were interested in the type of automaton, where each X_i, $i \in \mathbf{I}=(1,\ldots, n\}$ state depended on the previous X_{i-1} state. Such dependency could be determined by the consistency of the subgoal implementation, the priority of execution, etc. In this case, the automaton was specified as fuzzy graph **G** = (**X**, **M**), where $\mathbf{M}=\{\mu_G(X_{i-b}; X_i)\}$ was a set of membership of the $X_{i-1}\times X_i$ elements. The methods for mastery of the material and subtask states proceeding over time were interpreted as fuzzy events in the Y_j, $1 \le j \le p$ interval. Under this approach, the transition function was specified expertly and reflected the already available learning experience. To take into account the personal knowledge characteristics acquired by a particular student, it was necessary to construct an individualized transition function. For this purpose, the initial information from the student was accounted. This information involved setting the forecast of a learning method to be used, depending on the possible test results in the form of the **μ**: $X_i \times U_k \rightarrow$ [0.1] function, as well as the forecast of the transition of the controlled learning process from the initial state $\mathbf{S}_0$ in the first step toward the solution according to the constraints on the available resources. Based on this information, the automaton model was programmed. With this aim in mind, in each step we solved a system of the following compositional equations

$$\mu(X_i)/U_k = \mu(X_{i-1}) / U_{k-1} \circ \delta(X_{i-1}, X_i)/U_k; \quad (2)$$

$$\mu(U_k) = \mu(X_{i-1}) \circ \mu(X_{i-1})/U_k, \quad (3)$$

where " ∘ " is the sign of the "composition" operation;

$\mu(X_i)/U_k$, $\mu(X_{i-1})/U_{k-1}$ are the fuzzy estimations of the possibility of a controlled process that are in the states of X_i and X_{i-1} using methods of learning material U_k and U_{k-1}, respectively; and

$\mu(U_k)$ is the fuzzy estimation of the student's choice of learning the material U_k. The estimates obtained in (3) were grouped in pairs based on the following condition: $\mu(U_k) \le \mu(X_i)/U_k$. The pair formation according to this principle was consistent with the real choice of the solution: the test result with the maximal probability estimates should correspond to the method of mastering the material, as well as to the maximum evaluation of its application by the student. The selection of pairs made it possible to identify the most possible links between the subtask states (course modules) in terms of the methods of mastering the material. In addition, each learning method indicating the link, was characterized by a fuzzy estimation of its application by a student and the fuzzy estimations of the price of training (expenditure or income), subjectively realized by the student, depending on time, consumption of resources (tangible costs) on learning and challenges of the mastery of material. In particular, if the learning process was performed via the Internet, it was possible to learn in conditions of limited resources (the amount paid by the student for the traffic used). In order to eliminate weak links between the states of the course modules from consideration, we introduced the ω threshold, which was taken into account in constructing an individual model of the student's behavior. To eliminate the weak links between the states of the course modules, the equations (3) were solved and the pairs with an estimation of $\mu(U_1^v, X_1^r) < \omega$ were excluded when forming pairs "method of mastering the material"—"test results" in the first step of training (the first module). Therefore, in the second step of training, pairs in terms of the method of mastering the material U_1^v for the test result X_1^r were not

formed. The process of the weak links elimination was repeated for each step of training. Thus, when identifying the possible behaviors of the student in order to achieve the learning goals, only pairs "the method of mastering the material"—"test results" with fuzzy estimations above the established threshold value ω were considered. The results of modeling the student's behavior were visualized in the form of an oriented graph. The construction was as follows. From the initial state to the state of the first step of training, the drawn arcs were marked with those methods of mastering the material, the use of which, in accordance with the student forecast, would achieve positive results in the first step of training, and these methods were characterized by the greatest evaluation. Depending on the attributing these arcs and on the basis of the pairs "method of mastering the material"–"test results" formed, the arcs marked from the first to the *n*-th step of training were drawn. As a result of the constructions, we obtained a fuzzy nondeterministic automaton represented as a directed graph, simulating the behavior of a student for various intermediate test results. Applying the approach of dynamic programming, one could distinguish the classes of student's strategies. First of all, we were interested in the class whose strategies enabled achieving the goal of training and were characterized by the maximum estimations of the links between the test results. To identify these strategies, in the set of the final test results there were determined results corresponding to the learning goals. Further, the test results in the (n-1)th step were defined; the transition from them to the target states of the *n*-th step was characterized by the methods of mastering the material with an estimation of

$$\alpha(X_n^{r_n}) = \max(g(\mu(U_n - 1), \sigma_{X_{n-1},U_{n-1}})),$$

(4)

where r_n determined the target states of the *n*-th step;

$g(\mu(U_n - 1), \sigma_{X_{n-1},U_{n-1}})$ is the operation of convolution of the two criteria, by which the relationship between the test results were evaluated: the estimation of the transition from the $X_{n-1}^{r_{n-1}}$ to $X_n^{r_n}$ state using this method of mastering the material and the estimation of the required expenses for training in this particular case. For each criterion, there was a specified target function, i.e. a fuzzy set limiting the permissible values of the corresponding criterion (Fig. 1).

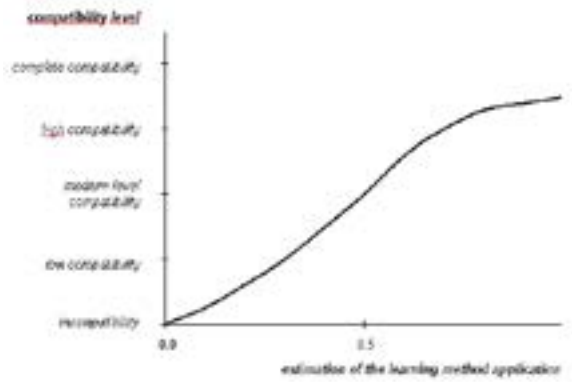

Fig. 1 – Target functions for estimating the learning method to be applied by a student

Thus, as it is clear from Fig. 1, it was necessary to maximize the estimation $\mu(U_n - 1)$ in the learning process when minimizing the expenses $\sigma_{X_{n-1},U_{n-1}}$ (or maximizing earnings).

The generalized goal in making decision can be represented by the rule of form:

If $1/\mu(U_n - 1)$ and $1/\sigma_{X_{n-1},U_{n-1}}$, then $H_w = 1$,

where H is the selection of a strategy characterized by the above-noted estimations with the *w* credibility, i.e. this rule means that this strategy fully corresponded to the wishes of the student. If instead of expenses, the income is considered, then the rule has the following form:

If $1/\mu(U_n - 1)$ and $1/(1 - \sigma_{X_{n-1},U_{n-1}})$, then $H_w = 1$.

Therefore, it was necessary to define a certain operation on fuzzy sets that made it possible to combine individual goals and best corresponded to the real generalized estimation of the transition between the test results $X_{n-1}^{r_{n-1}}$ and $X_n^{r_n}$.

Such an operation must meet the following requirements:

1) boundary conditions: $g(0, 0, ..., 0) = 0$; $g(1, 1, ..., 1) = 1$ for any pairs $(x_i, y_i) \in [0, 1]^2$, if $\forall i\ x_i \geq y_i$, then $g(x_1,\ldots,x_q) \geq g(y_1,\ldots, y_q)$;
2) g is the symmetric function of its arguments, i.e. does not change for any permutation of arguments; and
3) g is the continuous function.

We considered an option, when both criteria were equally important for the student, i.e. the low estimation $\mu(U_n - 1)$ indicated that the student was unlikely to use this method of mastering the material and get into the state $X_n^{r_n}$

due to this method, and the level of expenses in training, as practice had shown, influenced the student's decisions. In the case of the equivalence of the criteria used, it was possible to distinguish three basic strategies of the student when folding individual criteria estimations: a generalized estimation could not be better than the worst one of the partial estimation (conjunction operations); a generalized estimation was caused by the best of the partial estimation (disjunction operations); a generalized estimation of a compromise strategy was at the intermediate level between the partial estimation (the operation of averaging). As shown above, in practice, a compromise strategy was usually used, when criteria values convolution operation was advisable to use in the case when all the particular goals were increasing (or decreasing) functions. The choice of the strategy was determined both by the decisions of the student and by the recommendations of the training system. So, the student might deviate from his optimal strategy by using other solutions or applying solutions from the optimal strategy, get into states that did not correspond to it. In this case, the system analyzed the received information based on the data obtained from the database of the activity parameters (the results of the intermediate control at the learning steps, time of the material study, testing time, etc.) and transformed the strategy of the student, giving him/her advice on further training that helped to achieve the targeted learning goals. Application of this model made it possible to automate the adjustment of individual student strategies in the process of the distance learning monitoring. The peculiarity of the approach proposed is the probability to transfer the model of the student, formed by the teacher in the process of dialogical personal interaction with students, into the educational environment of distance learning. Thus, there was, to some extent, a redistribution of dialogical interactions from the "student-teacher" pair to the "student-distance learning system" pair. This example shows how the dialogical contact was technically realized, forming the space for educational interaction. This is not the only scheme; other organizational systems of dialogical space are possible [8]. It should be emphasized that for an adequate organization of high-tech, accessible and flexible education, a competent conceptual and ideological basis of dialogue and a modern communication and technical organization are necessary; only then will it be possible to safely lay down the dialogical principle in the distance learning technologies.

Conclusions

For a long time all official interactions designed to form a system of relations in education were based on rather rigid centrist deterministic schemes, the main feature of which was a strict subordination of the student to the teacher. But the realities of life and its variability have shown low effectiveness of this stereotyped approach. Therefore, the question of organizing effective interactions in distance learning arose in this connection. The interactions of that kind, in our view, are dialogical interactions. To consider this issue, we chose the methodology of from the abstract to the specific that is clearly traced in the structure of the article. As a result of applying this methodology and analyzing the conceptual and organizational aspects of a dialogue space, we can identify a number of approaches that enable most effective organizing the interaction in distance learning.

First, the dialogical principle of the formation of the space for dialogical interaction in distance learning may be considered as a worthy alternative that meets the requirements of today. Dialogical interactions do not exist in general, they always realize the relations of the given subject and of the given time and define a specific, in our case, educational environment and even a dialogue that passes at a distance and organizes the relationship here and now. Secondly, dialogue as the organizing principle of distance learning has essential characteristics, among which we have emphasized the following: fundamental openness and equality of all participants in the dialogue process; availability of structural organization; it possesses the self-organization properties; and there is no dedicated center and, accordingly, there is no dictatorship of the teacher. Thirdly, within the framework of the methodology selected, we have examined the practical implementation of the dialogical interaction in organizing the monitoring of knowledge and mastering of the material by students that makes it possible to form the space for social interaction. One of the options for the effective organization of the interactive environment is the use of a rating monitoring

system, when the two parties concerned (a student and a teacher) enter into a constructive dialogue based on the rating. The rating reveals the educational problems of the student and actualizes the potential of the dialogue to eliminate the problems identified. Rating and dialogue are mutually deterministic, complementing each other in the distance learning process. Fourthly, we have proposed a scheme for the technical implementation of the creation and maintenance of dialogical space taking into account the psychological characteristics of students. This scheme was approved in organizing the pilot distance education programs and provides for the implementation of the following functions: monitoring the educational process, collecting statistical data and selecting one's own trajectory of the course study. All issues related to the specifics of the organization of dialogical interaction in distance learning cannot be solved in the framework of one or even several investigations. Dynamically changing environment of education predetermines the variability of the dialogical start of coordination between the teacher and the student at any specific time. Dialogical development of a distance learning plan can be applied in the dynamic multi-factor world, when ready-made schemes and standards do not work and there are no pre-defined conditions for interaction. The analysis of the social interaction in distance learning requires further consideration, close attention, improvement of the links between the rating monitoring system, dialogical principles and technical solutions that keep up with the realities of the modern society.

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DIJALOŠKA INTERAKCIJA: OBILJEŽJA I PROVEDBA KOD UČENJA NA DALJINU

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Sažetak

Članak se bavi obrazloženjem dijaloškog principa učenja na daljinu. Ovo istraživanje razmatra realizaciju učinkovite interakcije kao ključnog pitanja učenja na daljinu, uključujući povratne informacije i organizaciju interaktivnog prostora za dijalog. Što je više dijaloške interakcije izgrađeno i implementirano pri stvaranju okvira učenja na daljinu, to će se postići kvalitetniji rezultati. U članku su navedeni primjeri organizacije dijaloga u razvoju računalnih sustava učenja na daljinu i mogućnosti njezine realizacije za kontinuiranu procjenu učenika. Unatoč činjenici da dijaloška interakcija u učenju na daljinu nije do sada postala zajednička tendencija sudionicima procesa učenja, budućnost učenja na daljinu je usko povezana s realizacijom dijaloškog principa.

Ključne riječi

Dijalog, interakcija, učenje na daljinu