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COMMUNICATIVE ENVIRONMENT OF INQUIRY-BASED LEARNING AT SCHOOL

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Abstract

The article proves that communicative environment of inquiry-based learning of schoolchildren differs from the communicative environment of traditional learning. Typological signs of communicative space of inquiry-based learning have been revealed by means of comparison of scientific and pedagogical institutional discourses. It has been proven that the communicative space of inquiry-based learning is not a scientific discourse form, but a special locus of pedagogical discourse. Communicative environment of inquiry-based learning is represented in the integrity of its three components: the class environment based on the usage of the problem learning method by the teacher and his/her education dialogisation skills; extracurricular activity of the pupils conducting research, during which the results-oriented shaping of their academic culture occurs; other forms of speech interaction of the study subjects based on the values and traditions of academic culture. The article emphasizes the characteristics of communicative competence of the teacher, necessary for him to implement the communicative role of scientific supervisor. Three levels of such competence are presented: the level of conscious command of rhetorization tools; the level of command of organization of creative interaction with the pupils; the level of command of facilitation skills. It has been concluded that a specialized training of teachers-scientific supervisors to efficient interaction in the communicative environment of inquiry-based learning is necessary. The article discloses the content of academic subject "Communicative competence of inquiry-based learning subjects" for Master's degree program "Pedagogic education".

Keywords: Communicative environment, academic culture, rhetorization, facilitation.

1. Introduction

This article considers the inquiry-based learning in its communicative aspect. We support the statement of Klarin (2018): "A sustainable characteristic of enquiry-based learning models is the close communication between the "purely   cognitive" and communicative procedures" (p. 196).

In the speech study, the extralingual signs of communicative environment are, first of all, the communicative sphere specifics, the roles of communicants, the cultural norms, values and traditions affecting the nature and efficacy of speech interaction of the subjects (Habermas, 1981).

It follows from the above, that the specific features of inquiry-based learning at school (Driver & Bell, 1986) predetermine the specific of its communicative environment, "fundamental and most essential relations in the real world and cognition" (Maslova, 2017, p.18).

The inquiry-based learning is based on shaping of academic culture of schoolchildren including pedagogically adapted values, traditions, norms and rules of conducting the studies established in the science (Dobrotina & Erokhina, 2017).

As we can see, the communicative environment of inquiry-based learning has some specific features distinguishing it from the communicative environment of traditional learning; it needs special analysis and description.

2. Problem Statement

Despite the long history and extensive practice of inquiry-based learning at school, the problems related to the nature and efficacy of the interaction between the pupil conducting the research and the teacher-scientific supervisor, have not been solved and result, inter alia, in diminishing of pedagogical significance of teaching the research to children.

We are speaking about the problems caused by the contradictions, first of all, between the personality-centered nature of inquiry-based learning and the established practice of encouraging of its large-scale distribution in school educational process; and, second, between the preservation of the traditional principles of interaction between the teacher and the pupil in the course of research activities and the need to build this interaction on other grounds determined by the specific features of academic culture; and finally, between the expected availability of the communicative competences of the teacher, allowing for effective scientific supervision of the pupil conducting the research, and the lack of special programs of higher and additional education that enable teachers (future teachers) to master these competences

3. Research Questions

In the course of the study, the authors have answered the following questions: what are the typological signs of the cultural-speech environment of inquiry-based learning; how the scientific discourse itself and the communicative space of inquiry-based learning relate to each other; what are the specific features of the communicative space of research training as a special locus of pedagogical discourse; what kind of communication skills, abilities and knowledge characterize the teacher-scientific supervisor.

4. Purpose of the Study

The purpose of this study is to identify and characterize the typological features of the communicative environment of inquiry-based learning in the aspect of the interaction of its subjects; to substantiate the hierarchy of the communicative competencies of the teacher-scientific supervisor; to develop a program of the discipline "Communicative competence of inquiry-based learning subjects".

5. Research Methods

Typological features of the communicative environment of inquiry-based learning are revealed by comparing scientific and pedagogical institutional discourses (Bax, 2011; Rose, 2014; Alexander, 2015; Resnick, 2015; Park, Michaels, Affolter, & O'Connor, 2017; Rojas & Avitia, 2017).

We proceed from the belief that the communicative environment of inquiry-based learning is not a kind of scientific discourse but is a special locus of pedagogical discourse.

This statement is based, in particular, on the following comparisons: "the participants of a scientific discourse are researchers as representatives of the scientific community, and the characteristic feature of this discourse is the fundamental equality of all participants of scientific communication" (Karasik, 2002) – the participants of pedagogical discourse are not provided with such equality: "The teacher is empowered to pass the knowledge to the pupil ... and to assess the pupil's progress" (Karasik, 2002, p.209). The pupil conducting the research maintains his/her status of the pupil, the teacher-scientific supervisor remains in the role of a teacher, however, in terms of inquiry-based learning; these roles acquire their own specificity. The values of scientific discourse: "truth", "knowledge", "research" - in the context of schoolchildren's research activities acquire the properties of the pedagogical discourse values, they "are reduced to the recognition and consolidation of social traditions" (Karasik, 2002, p.230). The methodological basis of the analysis and characteristics of the communicative environment of inquiry-based learning as a specific locus of pedagogical discourse are the principles of T.A. Ladyzhenskaia rhetorical school - the rhetorics of effective communication, the conceptual provisions of pedagogical rhetoric and pedagogical discoursology. The following research methods were used: the study and comparative analysis of psychological, pedagogical, speech-study and methodological literature; observation with record-keeping; text-generation product analysis.

6. Findings

The communicative environment of inquiry-based learning "in the integrity and interaction of all its aspects forms an integral communicative environment into which speakers, so to speak, immerse in the process of communicative activity" (Gasparov, 1996, p.10). The integrity of communicative environment of inquiry-based learning is predetermined by the interpenetration of its three components:

> *the educational environment of the class based on the usage by the teacher of the problem*
> *learning method and his/her education dialogisation skills; extracurricular activity of the pupils*
> *conducting research, during which the results-oriented shaping of their academic culture occurs;*

other forms of speech interaction existing in school communicative environment, based on the values and traditions of academic culture. (Erohina, 2014, p.65)

The specific feature of communicative environment of inquiry-based learning as a specific locus of pedagogic discourse is determined by the fact that the communication of a teacher-scientific supervisor with the pupil conducting the research must create the conditions for motivation as well as awaken the pupil's own initiative in the arrangement of his/her cognitive activity.

This study emphasizes the discussion of communicative competence of the teacher because in the inquiry-based learning environment the essence of his/her position as a communicative leader changes – the teacher acquires the status of a leader, advisor. The teacher's new communicative role calls for other that traditional rhetoric knowledge and communicative skills.

Let us take the definition of scientific supervision provided by Ehrshtejn (2011): "it's an intended process of implementation of the main functions of management of scientific studies occurring in the process of interaction on two subjects" (p. 10) as the working definition. As we can see, this definition specifically separates the communicative component of scientific supervision; it emphasizes the importance of interaction of the participants of the research activity.

The communicative competence of the teacher-scientific supervisor is, in our opinion, a three-level system.

The first level is the conscious possession of rhetorization tools, that is, after S.A. Mineeva, the teacher's ability to build the educational process as a comprehensive dialog communication according rhetoric canons (as cited in Tihonov, 2005): the ability to transfer the learning situation into rhetorical one; to formulate a task that has no unequivocal answer, which needs to be solved by creating a speech statement taking into account the communicative situation; the awareness of the value of dialogical communication as the only possible communication in a situation of research, the search for truth; understanding that "rhetorization ... is not just the interaction of rhetoric with educational activities, but the implementation of the latter according to the laws of rhetoric" (Koshchej & CHuvakin, 2002, p.101).

A teacher who has mastered the rhetorization techniques, actively working in the dialogue paradigm of learning, is able to rise to the next level of communicative competence - to the level of rhetoric of organizing creative interaction with the pupils. Murashov (1999) states: Pedagogical communication and pedagogical speech as such are in an indispensable connection with the work of both participants in the educational process. A dialogue is not just an exchange of thoughts, but the ability of the teacher, and subsequently the pupil, to transcend the limits of the "I"-concept in an improvisational way, to assess the objective world from the standpoint of the counterpart. The most important communicative skill of a teacher who knows the rhetoric of organizing a creative interaction with students, according to Murashov (1999), is the ability to "initiate a dialogue and produce a heuristic situation resulting in the development of students' creative thinking and the generation of creative products as a result". A dialogue in a situation of creative interaction acquires a special quality: it becomes "a skill, according to Stanislavskii's terminology, "to play the partner", i.e. to see the object through his eyes and strive to understand his views in their latent forms" (as cited in Murashov, 1999, p.38).

Having mastered the rhetoric of arrangement the creative interaction with the pupil, the teacher is able to move to the third, highest, level of communicative competence, based on facilitative skills (Novak, 1998; Wilkinson, 2004).

The facilitative skills of a teacher are determined by the "core" of his/her communicative personality, "the internal subsystem determining the communicative behavior" (Gavra, 2016): the teacher's naturalness and openness in communication; the ability to move from his/her own personal problems to the problems of the child; ability to self-development and self-improvement; the empathy, trust to the student; the development of the mechanisms of suggestion, capture and imitation; reflexive skills (Facilitation Skills Research Survey, 2003).

The communicative leadership of the facilitator teacher, after Rodzhers and Frejberg (1999), is as follows:

Learning facilitator… first of all… asks the pupils, not himself: … What interests you? What troubles you? What kind of problems would you like to be able to solve? After that he asks himself: How can I help the pupils to search the new sources of information…? How can I help the pupils to assess their achievements and set new educational objectives based on that self-assessment? (p. 247)

It is possible to point out the following communicative approaches of scientific supervisor – facilitator:

trustful communication; positive judgments and support; constructive critics; orientation at the mutual interest between the subjects of inquiry-based learning; determination of the optimal distance of interaction understood as the level of the values involved in the interaction; discussion; brainstorm; exchange of roles between the subjects of scientific supervision; the disclosure of communicative problems. (Ehrshtejn, 2011, p.10)

The role of facilitator as a successful supervisor of a pupil's research activity calls for the teacher's continuous personal development, cardinal revision of the pedagogical activity and the style of pedagogical communication, (Pedler & Abbott, 2013) mastering of the speech genres which are not included in the traditional genre repertoire of the teacher: advises, friendly conversation, counsel, discussion, interchange of views, debate etc.

The development of communicative competence of the teachers-scientific supervisors is one of the tasks of the program of an academic subject "Communicative competence of inquiry-based learning subjects" implemented at the Master's degree course of Moscow Pedagogical State University consisting of the following content units: "Academic culture as a value-normative system of research activities"; "Academic literacy"; "Facilitation as the optimal style of pedagogical communication in the context of inquiry-based learning". The content components have been developed for each content unit of the program, the planned learning outcomes are determined, teaching methods, pedagogical techniques and forms of classes are recommended.

Thus, the unit "Academic culture as a value-normative system of research activities" considers the following: the history of inquiry-based learning at school and its current state; the objectives and tasks of inquiry-based learning; inquiry-based learning and traditional education types; inquiry-based learning and technology of project activity training; the concept of "academic culture", the values, norms, ideals of academic culture; epistemological traditions of academic culture; specific features of speech interaction in the environment of academic culture.

The unit "Academic literacy" consisting of the sections "Secondary texts in an inquiry-based learning situation", "The modeling of an educational report text", "Scientific communication genres", studies the following subjects: academic literacy as an operational component of academic culture; the essence of the scientific functional style; secondary texts in a situation of research training: adaptation and summarization; scientific communication genres; types of educational texts in the inquiry-based learning environment; the modeling of an educational report text; the agonal nature of schoolchildren's scientific-practical conference.

The content unit "Facilitation as the optimal style of pedagogical communication in the context of inquiry-based learning" includes the following subjects: the specific features of speech interaction in the academic culture environment; the communicative aspect of the scientific supervision of a pupil's research work; the concept of a scientific alliance; the styles of pedagogic communication; the concept of facilitation in psychology, management theory and pedagogy; the personal competence of the teacher-facilitator; the communicative strategies of the teacher-facilitator.

As a result of mastering of the unit "Academic culture as a value-normative system of research activities" the pupils know: the objectives, tasks, principles of the inquiry-based learning; the principal distinction between the research and the project; the definition of the concept: "academic culture"; the values, norms and ideals of academic culture; the stages of research activity; they are able to: distinguish the research from the project; determine the values, norms and ideals of academic culture; analyze the texts as the objects of academic culture; they have mastered: the fundamentals of academic culture at creation and reflection of texts within the framework of inquiry-based learning.

As a result of mastering of the unit "Academic literacy" the pupils know: the essence of scientific style and the specific features of its genres; the principal composition elements of educational-research report, corresponding to the academic culture traditions; the main genres of scientific communication; they are able to: analyze the primary text; read and understand the scientific text; determine its problem (problems); point out the main and the secondary information; determine the text composition, the logic of the author's thought development; create their own speech work: build the speech pronouncement in consideration of the speech situation; create and analyze various types of educational and scientific texts; create educational scientific informational speech; speak at schoolchildren's scientific-practical conference; participate in scientific discussion; they have mastered: the skills of annotation; adaptation of primary scientific text (the skills of reconstruction; reduction; inference chain simplification due to the removal of some of its links; simplification of references, notes, citing; substitution of scientific terminology with common, general literature one; scientific-promotional techniques: explanation, analogy etc.; the techniques of modelling of educational-scientific report text; formulation of the hypothesis of the study; compliance with the principle of accuracy and clearness of the thesis formulation; argumentation

based on annotating the scientific text according to the study subject; based on scientific description of a study conducted (experiment, observation etc.); the techniques of creation, analysis, editing of educational and scientific genre texts; academic genres; information-annotation genres; scientific-assessment genres.

As a result of mastering of the unit "Facilitation as the optimal style of pedagogical communication in the context of inquiry-based learning" the pupils know: the specific features of communication in the scientific field; principles of the communicative culture of the scientific supervisor; the essence of the concepts: "scientific alliance", "facilitation"; the techniques of facilitation in the inquiry-based learning environment; they are able: to move from their own problems to the solution of the problems common with a pupil conducting the research; define the objectives and tasks of the joint study with the pupil; to build a subject-subject interaction with a pupil conducting the research; they have mastered: pedagogical dialogue; the techniques of rhetorization of education; the techniques of arrangement of creative interaction with the pupils; the facilitation communicative tactics.

7.   Conclusion

Let us sum it up. To accomplish the tasks of inquiry-based learning, it is necessary to create a specific cultural and speech environment. It is the communicative aspect of inquiry-based learning that presents the greatest difficulty for its participants. The nature of the activity itself, the rules of speech behavior, the specific features of speech genres, the specific features of subject-subject interaction in research teaching necessitate mastering the different communicative speech and rhetorical skills, than the ones traditional for school.

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