

INTERDISCIPLINARITY WITHIN THE FRAMES OF SYNERGISTIC ASPECTS WHEN TEACHING FOREIGN LANGUAGE IN NON-LINGUISTIC HIGH SCHOOL

O.A. Galanova, Yu.N. Shitz

National Research Tomsk Polytechnic University (Tomsk, Russia).
E-mail: Shitzjulia@mail.ru

Abstract. Modern society with its character values information and knowledge very highly as they play an increasingly important role now. Accordingly, it puts forward requirements for educational process organization of teaching foreign language in non-linguistic high school. Here, there are two groups of top prior principles. The first group includes didactic principles of interdisciplinary interconnectedness and interdependence of various components. The second group is represented with such important principles of methods used when teaching foreign language discourse on the basis of synergetic approach as principles of communicativeness, non-linearity, openness, observability, maintenance and strengthening of order through fluctuation, homeostasis and mental lexicon.

Keywords: High school; foreign language teaching; didactic, methodological principles; interdisciplinarity, Synergy.

Introduction

Modern society with its character values information and knowledge very highly as they play an increasingly important role now. Accordingly, it puts forward requirements for organization of educational process in the system of higher education. It should be recognized that it is interdisciplinary which serves as the basis of educational process organization of foreign language teaching in high school. Thus, interdisciplinary contributes to the development of such a quality of students' personality as ability to quickly and efficiently process and use relevant information. Moreover, it should be noticed that interdisciplinary enrichment of students' communicative practice is acquired due to interdisciplinary links between foreign language and specialist discipline [1].

According to V.V. Safonova, the principle of interdisciplinary interconnectedness and interdependence of various components in the system of specialist training in high school is a qualitatively new didactic principle which reflects a growing force of interdisciplinary integration processes in the modern educational structures significant to all types of educational institutions. Moreover, it serves as the fundamental base for educational process organization of foreign language teaching in non-linguistic high school / faculty along with such important principles of methods used when teaching foreign language discourse on the basis of synergetic approach - principles of communicativeness, non-linearity, openness, observability, maintenance

and strengthening of order through fluctuation, homeostasis and the mental lexicon [2].

Research Design and Methodology

To start with, we consider a dialogue as the context and the means of interdisciplinarity performance. The word “dialogue” has a broad spectrum of meanings and is still undergoing conceptual expansion. It was evidenced by recording of its new meaning - “cooperation and mutual understanding” at the end of the twentieth century [3]. Many outstanding scientists from different historical periods (Aristotle, Diogenes Laertius, M.M. Bakhtin, N.A. Berdyaev, V.S. Bibler, M. Buber, G.Y. Bush, G. Gadamer, B.A. Erunov, M.S. Kagan, V.A. Lektorskii, D. Lenk, L.A. Mikesheina, V.S. Stepin, Feuerbach et al.) have been developing the theory of dialogue. In recent researches, this theory has extensive interdisciplinary connections. It should be emphasized that at the present time the theory of dialogue has obtained a methodological status as well: in particular, it is used as a new methodology of science not only in humanitarian but also in natural sciences.

Contemporary context of interdisciplinary dialogue is strongly influenced by Synergetics. H. Haken, one of the founders of Synergetics, defines its essence as follows: Synergetics - the doctrine of interaction. Then the scientist complements this concise definition with an expressive metaphor of a bridge between the natural and social sciences [4].

Reference to Synergetics is determined by crisis state of society and search for a way out of it. Crisis of modern education system is an integral part of this general crisis and has many causes. One of them is recognized as rigid division into “humanitarians” and “non-humanitarians”, which constantly arises in the education system. V.G. Budanov [5] rightly remarks that today culture is falling into the culture of natural sciences with the dominant idea of scientific methods, including natural sciences, technology and the like, and humanitarian culture, including art, literature, sciences dealing with society and the inner world of a man. These two cultures have different languages, criteria and values. This uncompromising division based on strict disciplinary approach results in fragmentation of world perception and even in its deformation. Moreover, it does not allow people to adequately respond to escalating crisis, devaluation of moral code and instability of situation. Though, such dichotomous differentiation can be mitigated within the framework of the synergetic paradigm, providing the dialogue between humanitarian and non-humanitarian cultures. In this case, perhaps, more harmonious state of education, culture and society in general will be achieved.

Synergetics as a science has heavy adaptive resource for personality of a learner. It creates common space, surroundings for interdisciplinary dialogue not only within the frames of allied sciences, but also of those sciences which have

other objects: nature, society, man etc. Accordingly, it assumes not only interdisciplinary integration, but also an exploration of the worlds of different cultures - culture of natural sciences and humanitarian culture. In other words, it contributes to achievement of student's personhood. As a result, students of non-linguistic high school / faculty have fundamentally different understanding of the world.

V.N. Porus [6] emphasizes an important aspect of Synergetics: it aims at creating as objects of science as well as mental structures in which these objects are generated. Therefore, exactly this fact proves significant didactic potential of Synergetics. Synergetic methodology contributes to achievement of personhood of a student, helps to avoid one-sided narrow picture of the world. It applies equally to all: as representatives of natural sciences and engineering, as representatives of humanities. It is a cause for implementation of a special course "Concepts of Modern Natural Science" in the educational process of Russian universities. The purpose of this course is to introduce students to the issues of modern interdisciplinary researches. While mastering the course, students are introduced to a synergistic view of the world and learn a synergistic methodology of studying complex, open and evolving systems. In addition, since this course is usually illustrated with examples from natural sciences, mostly Physics, it comes as a surprise to the students of non-linguistic high schools / faculties when they find confirmation of synergetic ideas while learning foreign language.

Interpretation of foreign speech / discourse as an open, highly complex, self-developing system allows students not only to understand the structure of speech units and their functioning, but also to see, perceive and analyze living and pulsating process of human speech over time. They may comprehend and decompose variability of speakers' immediate objectives, constant updating of their verbal behavior at every moment of interaction and, accordingly, variability of speakers' speech expressions. This process can be interpreted by the notion autopoiesis. It refers to synergetic methodology and is frequently used by students, for example, by future biologists. The notion was introduced by F. Varela. According to the scientist, autopoiesis is essence of cognition and is a constitutive property of a living being, "cognition is an action aimed at finding what is lost or missed and at gaps filling" [7]. Students come to the conclusion that cognition is autopoietic, since it is aimed at finding, designing what is missed, what is lacked or neglected, at filling gaps and self-constructing the entirety. Moreover, the process of acquiring subjective experience in foreign language speech by students can be described with the help of autopoiesis. Here, psychological content area is presented by an ideal object - thought. It concerns not only perception and understanding of as many sides of other people's thought as possible, but also generating personal statement, with all nuances of conceived. Thus, it is evident that the term "autopoiesis" is very rewarding and fruitful in relation to the thought and the word in terms of synergy and methods of teaching foreign language for biologists.

In addition, other concepts of synergetic paradigm also possess large awareness-raising and explanatory power and are readily used by students-non-linguists. Many of them are words composed of international word-building elements and therefore priori understandable for students. Among them there are such internationalisms as reference, inference, relevance, etc.

When fulfilling such interpretive activity, students use synergistic scientific tools of discourse analysis. Their use is stipulated by peculiarities of discourse. According to M.L. Makarov [8], a speech act can not uniquely determine type and properties of a subsequent act. It only sets conditions under which occurrence of this or that act which sustains this dialogue is expected, appropriate, and meets rules and standards of communication. In this case, the type of relationship is characterized by a "vague" probabilistic dependencies determined by strategies, rules and standards of speech in interaction. Therefore, when perceiving and producing foreign speech, students should take into account that during verbal interaction a complex social program is implemented. This program is characterized by dynamic nature. Such dynamics allows speakers to simulate constant motion: there is ongoing interaction between speech partners and involvement of new members into communication process. In addition, new objects of their communicative activity appear and it, in turn, stimulates speech partners to use varied communication practices. Consequently, this phenomenon is the most difficult for students. To overcome this difficulty while learning foreign language, students-non-linguists use the concept of socio-cognitive aspects of discourse analysis. This concept has been developing by the scholar school under the direction of S.K. Gural (S.V. Kuznetsova, L.G. Medvedeva, L.Y. Minakova, O.A. Obdalova, E.A. Shaturnaya, etc.).

According to the scholar school of S.K. Gural, linguo-didactic interpretation of foreign language discourse used in the educational process of foreign language teaching in non-linguistic high school / non-linguistic faculty from the perspective of synergetic paradigm is a model of discourse analysis. The authors of this model are J. Sinclair and M. Coulthard. The output of linguistic and methodological interpretation of foreign language discourse used in classroom should be discourse analysis algorithms, containing the most relevant components of discourse. Thus, when students acquire discourse analysis algorithms of foreign language discourse, the basis semantic components are proposition, reference, explicature and implicature, relevance and presupposition, as well as mental lexicon. Accordingly, students analyze, explore and decompose the process of speech production and meaning making when reading, watching video, comprehending audio and speaking within the frames of the course of foreign language of professional communication (Language for Specific Purposes). Thus, for this purposes they use discourse analysis algorithm specially developed for this target audience.

Here, integration of skills in LSP reading, LSP listening and LSP speaking is of great importance because it provides conditions for develop-

ment of coherent foreign language communicative competence, which is based on foreign-language discourse. Therefore, when organizing educational process of learning it should be taken into account that students should necessarily acquire special discursive and analytical skills. Such discursive and analytical skills involve semantic processing of statements. It assumes pointing out and naming semantic groups, defining purpose of statements, defining genre of texts, finding differences in discourse analysis of dialogues from video / audio materials and written texts, defining operations “dialogue initiation - reaction to initiation - dialogue completion” while listening / watching, defining triangular logical structure “introduction – main body – conclusion” in written texts; finding bifurcation points in discourse, defining speech tactics and their sequences within the frames of informing / dictum, interactive / regulative and phatic / modal strategies and so on. Practical experience shows that simultaneous shaping of discursive and analytical skills, together with development of skills in LSP reading, LSP listening and LSP speaking increases efficiency of mastering discursive and analytical skills. At the same time shaping these skills has a positive effect on the development of skills in LSP dialogue reading, LSP listening comprehension and LSP speaking and, thus, helps to increase the level of language proficiency in students' experimental groups.

Conclusion

Thus, usage of synergistic aspects in teaching foreign language discourse in high school in context of interdisciplinarity shows that usage of cognition models employed in natural sciences and humanities is capable to provide an interdisciplinary enrichment of students' communicative practice. The main thing here is that these models should be mutually agreed and generated in close co-operation, in interaction.

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