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Pedagogical conditions for linguistic-self-educational activity formation of future oil and gas students

Condiciones pedagógicas de la actividad lingüístico-auto-educativa en la formación de los estudiantes de petróleo

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Content

ABSTRACT:
The article presents a theoretical overview of the structural components of the linguistic-self-educational activity of future oil and gas engineers in the conditions of a higher school. The author presented pedagogical conditions for the formation of cognitive, sociocultural, personal, professional, communicative and praxeological components of the students' linguistic-self-educational activity. The author considers such technologies as coordination of the content of disciplines of various cycles studying a foreign language, the introduction of an electronic educational and methodological complex and various forms of out-of-class work to be effective in the process of educational activity. The validity and reliability of the research results are provided by the validity of the initial theoretical propositions; by representativeness of the data; verification of the reliability of the results of experimental work using methods of mathematical statistics.
Keywords: electronic educational-methodical complex, structure of linguistic-self-educational activity, components

RESUMEN:
El artículo presenta una revisión teórica de los componentes estructurales lingüístico-auto-educativos de los futuros ingenieros de petróleo en las condiciones de la escuela secundaria. El autor presenta las condiciones pedagógicas de la formación de los componentes cognitivos, sociales, culturales, personales, profesionales, comunicativas y praxeológicas lingvosamoobrazovatelnoy la actividad de los estudiantes. Como condiciones efectivas fueron las técnicas tales como la coordinación de los contenidos de las disciplinas de diferentes ciclos en el estudio de un idioma extranjero, la introducción del complejo educativo electrónica y diversas formas de trabajo extracurricular en el curso de la actividad educativa de los alumnos de un colegio técnico. Validez y fiabilidad de los resultados del estudio proporcionan la validez teórica de las disposiciones originales; representatividad recibido de datos; comprobar la fiabilidad de los resultados del trabajo experimental con métodos de estadística matemática.
Palabras clave: electrónico complejo educativo-metódica, la estructura de lingüístico-auto-educativo actividad, componentes.

1. Introduction

Based on the analysis of pedagogical and methodological literature and the study of our own activity as a teacher of a foreign language, the research problem was identified and formulated, which is determined by the contradiction between the need of modern society in the personality of an oil engineer capable of self-education learning a foreign language, on the one hand, and insufficient theoretical and practical development of the conditions for the formation of the linguistic-self-educational activity of students in the learning process in a higher school, on the other hand.

There was a contradiction between: the changed requirements of modern society for the future oil-engineer, the existing system of vocational training; and inadequate scientific and methodological support of the process of linguistic-self-educational activity formation of the oil students in the field of foreign languages.

The urgency of the problem is caused by the insufficient theoretical and practical development of the research topic: "Formation of the linguistic-self-educational activity of the future oil engineer in the process of professional training".

The purpose of this study is the theoretical justification and implementation of the system for the formation of cognitive, personal and praxeological components of students' readiness for linguistic activity.

The problem of linguistic-self-educational activity of future oil engineers became the subject of research by many scientists (Amend, 2001; Andreev, 2008; Slastenin, 2008) who considered various aspects of this problem: a

retrospective comparative-historical overview of the problem of self-education , its essence, functions, regularities of development, place in professional activity (Serikov, 2002) means of formation for self-education formation of skills and self-education skills teaching foreign language students in non-linguistic bonds (Bim, 2004; Kolker, 200; Tatarciuc, 2002).

According to the received information, we consider the readiness for linguistic-self-educational activity as an integrative personal education, which includes a positive motivation aimed at improving foreign-language skills in the process of educational and future professional activities. linguistic-self-educational activity includes personal, cognitive personal and praxeological components (Ibatova et al, 2017).

The next step of our research is to determine the structure of the linguistic-self-educational activity of oil students of technical university.

Taking into account the specific character of the professional activity profile of future oil engineers, we consider linguistic-self-educational activity as a systemic phenomenon and identify structural and functional components. Structural components - cognitive and praxiological - are necessary for successful speech interaction of subjects of professional activity.

Functional components of the linguistic-self-educational activity are: sociocultural, professional-communicative and personal, which provide relationships of interconnection and interdependence of structural components. At the same time, knowledge and skills are provided in each of the structural and functional components, that ensure the solution of communicative tasks in the process of professional activity.

The cognitive component of the linguistic-self-educational activity characterizes a system of diverse theoretical knowledge (linguistic, professional) that students must learn to solve communicative tasks successfully in various situations of professional activity.

The cognitive component includes the following knowledge:

1. Linguistic knowledge: knowledge of the structure and content of foreign language and speech activity; the system and structure of the language being studied, the possibilities for their implementation; the linguistic structure as a whole and individual linguistic phenomena: the phonetic system, the grammatical system, the vocabulary; stylistic features.

2. Communicative knowledge: the essence and features of the communication process; the structure of professional communication in general; the rules of building the process of professional communication; the ways to establish and maintain contact; the methods of psychological defense in the process of communicative activity, the removal of tension, the prevention and resolution of conflict situations, etc.

3. Professional knowledge: the relationship between subjects of professional interaction; the essence and methods of professional self-improvement; the ways and means of determining the professional and personal position of an oil engineer.

The socio-cultural component is an important functional component of the structure of readiness for the linguistic-self-educational activity of technical university students.

Sociocultural component includes the following components:

- "social, cultural and ethical norms regulating human activity in the society ... these norms are the condition and result of the human conventional activity, harmonizing its vital meanings, goals and values with the norms adopted in the given society" (Garifullina, 2006);

- extralinguistic norms of communication and communicative behavior of partners: (Sternin, 2007);

- general cultural norms (politeness, desire for brevity, restraint in the expression of feelings), situational norms (etiquette greetings, conversation, dialogue (monologue), group norms (the use of word-terms, lexical meanings and semantic content of which is familiar to all participants of communication), (Alekseenko, 2009).

The basis for successful communication is the correct choice of the speech form, the means for expressing a certain content in a specific speech situation. There are rules , norms of the use of linguistic units in each language. The speech is based on the phonetic, morphological, syntactic, lexical material of the language.

We suppose that the minimum sufficient composition of the socio-cultural component includes the linguistic features of social strata, sexes, social groups, dialects, national-specific models of behavior using communicative techniques adopted in a given culture.

The sociocultural component includes:

- knowledge of linguistic, social, cultural, ethical norms; tssence and features of the main types of speech activity (speaking, writing, listening, reading);

- skills: to freely use linguistic knowledge for adequate expression of information in the process of communication; to present available material is understandable and convincing; to answer questions adequately; to carry out speech activities of various types (monologue, dialogue) taking into account the characteristics of the partner (partners) in communication;to listen; to choose and apply adequate language tools and forms, depending on the purpose and situation of communication, the social roles of communication participants, etc.

As the second functional component of the linguistic-self-educational activity of technical university students is a professional-communicative component. This component characterizes professional communication of a specialist, defined as "language communication, carried out in the process of professional activity (Garbovskey, 1988). Professional speech is associated with the use of specially vocabulary it is studied as interpersonal communication in the professional sphere, which is divided into the interaction of a specialist and a layman, specialists in one area in different Organizations and different areas in one organization.
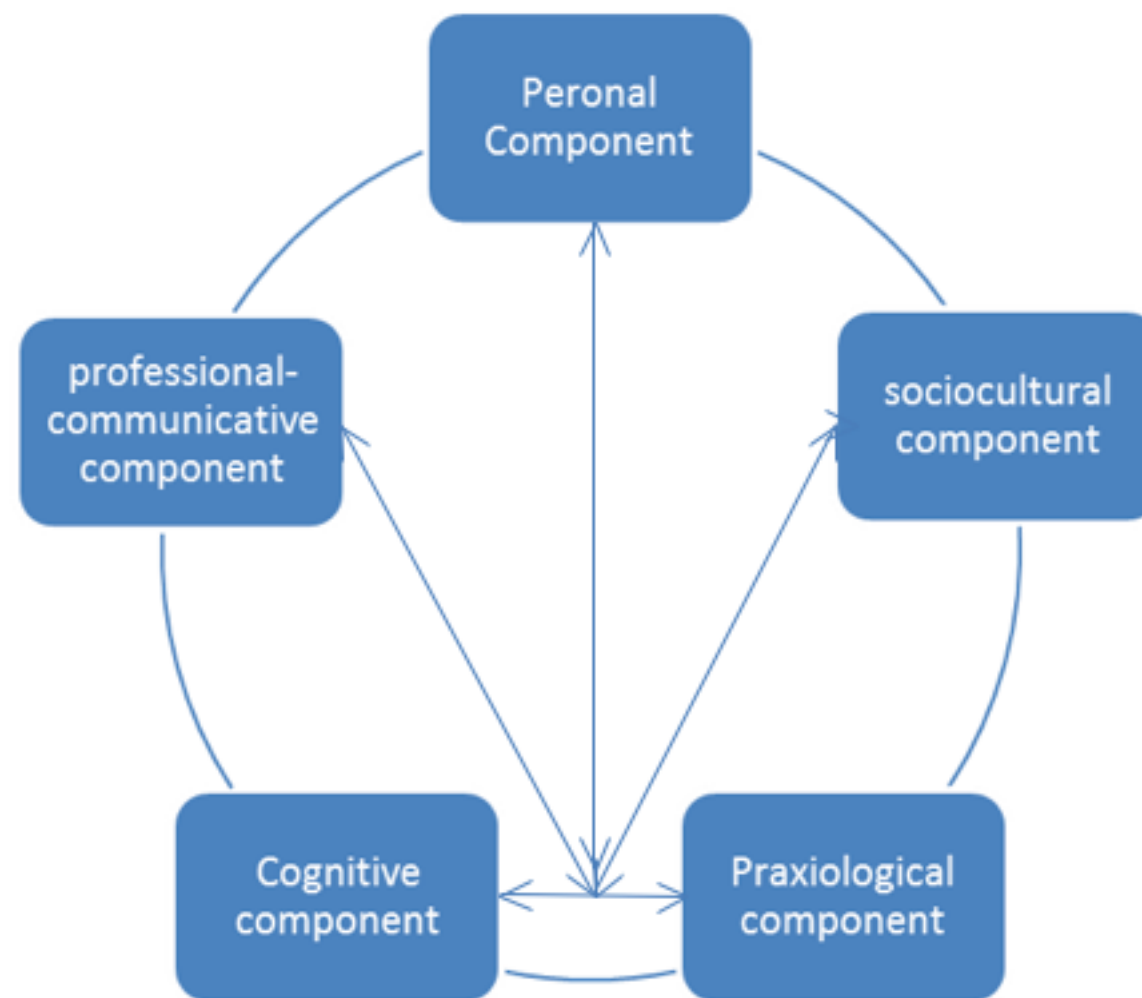
The professional-communicative component includes:

- knowledge: the foundations of professional communication, means and methods of professional interaction; speech and etiquette norms; vocational-oil terms;

- skills: to formulate goals and tasks of professional communication; to organize and manage it; to put questions correctly and respond to them specifically; taking into account the peculiarities of the situation of professional communication, to build the speech interaction briefly or in full; to establish and maintain contact with the interlocutor (patient, colleague, leader, etc.) in various situations of professional communication; to realize various forms of communication in the process of professional interaction (conversation, interview, dialogue, discussion, etc.); to analyze and constructively resolve conflict situations arising in the process of professional communication; to use the etiquette formulas of speech correctly, taking into account the actual situation; to choose and apply techniques of rhetoric and speech techniques adequately; to implement the communication process correctly, taking into account the contingent of communication partners (engineers, oil workers, colleagues) it is reasonable to select and apply adequate means to illustrate one's point of view and argumentation of the statement, and so on.

A personal component that includes:

- knowledge: the use of language in specific sociocultural conditions; principles and rules for the implementation of interpersonal contacts in the ordinary sphere and the sphere of professional activity;

- skills: to realize the rights and duties of a citizen in a social life, socio-cultural values; to carry out self-development; to use the acquired knowledge in solving various social and professional problems; to find solutions in non-standard situations of professional interaction and communication; to find, perceive, process and transform information necessary for active life and communication; to carry out speech and non-verbal communication in accordance with the historical, national, cultural, geographical, social and other features of the society; to choose and use adequate language forms and means, depending on the purpose and situation of professional and interpersonal communication, social positions of subjects of professional communication;

- personal characteristics (communication skills, stress resistance, tolerance, etc.).

Figure. 1
Structure of students' linguistic-self-educational activity

The praxiological component characterizes a certain type of speech activity chosen by the subjects of professional communication, according to a specific speech situation and the status (personal, social, professional) of the partner in speech interaction.

Skills that make up the content of the praxeological component:

A) linguistic skillsto carry out: various types of speech activity (speaking, listening, writing, reading) in the process of professional communication; selection of arguments to substantiate their point of view; the realization of language capabilities in the process of professional communication at various language levels, etc .;

B) communicative skills: skills in determining the purpose and tasks of professional communication; compliance with the rules of constructing the process of professional communication; establishing and maintaining contact in the process of communication; the implementation of psychological protection in the process of communicative activity; prevention and resolution of conflict situations; awareness and justification of one's own point of view; self-analysis and analysis of partner's actions in the process of speech interaction in professional oil and gas activities;

C) professional skills: planning speech communication in the process of professional activity; establishing constructive relationships between subjects of professional interaction; professional self-improvement; the assertion of one's own professional and personal position, etc.

2. Methodology

We used a set of theoretical (analysis, synthesis, generalization, classification, etc.) and empirical (pedagogical experiment, questioning, testing, pedagogical observation, study of psychological, pedagogical and methodological literature, student products, generalization of personal and advanced experience of teachers) of research methods, as well as methods of mathematical data processing.

3. Results and Discussions

The implementation of the linguistic-self-educational activity formation system teaching the future oil engineers was carried out in conjunction with the implementation of a set of pedagogical conditions, each of which contributed to the formation of a certain component of the activity we are considering.

The first condition - the systematization of students 'knowledge, skills in the field of linguistic-self-educational activity on the basis of integration and coordination of the content of disciplines of different cycles (humanitarian, natural-science, professional) - ensured the realization of the formation of cognitive, sociocultural components of the structure of linguistic-self-educational activity.

The second condition - the development and implementation of a comprehensive methodological support for the linguistic-self-educational activity formation – it ensured the formation of a professional and communicative component of the linguistic-self-educational activity of oil students.

The third pedagogical condition - the creation of the environment of speech communication in a foreign language on the basis of the variety of forms of extracurricular activities - was aimed at implementing the praxeological and personal components of the structure of the students' linguistic-self-educational activity.

The definition of the content of activities for the implementation of pedagogical conditions was carried out by us in several stages.

The first stage was to study the social order for higher education, to analyze the pedagogical conditions that would ensure the achievement of this goal on the basis of the structure of the linguistic-self-educational activity of future oil and gas specialists.

At the second stage, we presented a set of interrelated and interdependent pedagogical conditions that presupposes: the systematization of students' knowledge, abilities and skills in the field of linguistic-self-educational activity on the basis of integration and coordination of the content of disciplines of various cycles (humanitarian, natural-science, professional); Development and implementation of integrated methodological support for the formation of the linguistic-self-educational activity of the future oil industry; expansion of the environment of speech communication in a foreign language on the basis of the variety of forms of extracurricular work.

Hypothesis: the implementation of the selected conditions will be more effective if they are implemented in a complex, rather than separately or in pairs.

The organizational work done gave grounds for proceeding to the immediate realization of the set of conditions that we defined. The pedagogical experiment was attended by students of 1-2 courses, specializing 23.03.01 "Oil and gas business". The experiment lasted for two years.

Further, we will outline the content of the activities for approbation of the selected conditions in the educational process at the Branch of Industrial University of Tyumen in Surgut.

So, the realization of the first condition aimed at the systematization of the knowledge, skills in the field of linguistic-self-educational activity on the basis of integration and coordination of the content of disciplines of various cycles (humanitarian, natural-science, professional) – it provided the realization of the formation of the cognitive component of the structure of the students' linguistic-self-educational activity. The first pedagogical condition was applied in three experimental groups (№1, №2, №3).

We conducted an analysis of the curriculum of specialty 23.03.01 "Oil and gas business", which showed that the study of most of the disciplines we selected for integration and coordination of content falls on the first two years of training in a technical university (Table 1).

Then the possibilities of the disciplines of the humanitarian, natural-science and professional cycles were determined in the systematization of knowledge, skills and skills that ensure the formation of the linguistic-self-educational activity of students.

Table 1
Interdisciplinary relations with the ensuing (subsequent) disciplines

Subsequent disciplines	The number of sections and topics of this discipline necessary for the study of the ensured (subsequent) disciplines					
Semesters	1	2	3	4	5	6
Jurisprudence			+			
Economy						+
Basics of business ethics and						

corporate culture		+	+		+	
Russian language and culture of speech	+	+		+		
Equipment for pipeline transport of oil	+				+	+
Drilling equipment	+				+	+

Synthesis of the information obtained made it possible to identify ways of implementing direct educational, interdisciplinary, direct research-interdisciplinary, mentally-mediated, mediated-applied relationships, which promote integration and interdisciplinary coordination in the formation of the linguistic-self-educational activities of students.

Direct educational and interdisciplinary links are realized, for example, when studying a subject such as "Business Foreign Language" (3rd year, 1st semester), taking into account the knowledge gained in the study of the discipline "The Russian Language and the Culture of Speech", studied earlier (1 course, 1 semester).

The implementation of direct research and interdisciplinary links is based on the allocation in general disciplines of common problems (the object of research), which are considered in various aspects (based on different disciplinary approaches). So, for example, when studying such disciplines as "Philosophy", "Ethics and corporate culture", "Russian language and culture of speech", the concepts "speech, communication," "professional communication", "foreign speech" are viewed from different positions, that Increases the effectiveness of the educational process, because Allows not only to designate the general field of the problem, but also to compile a holistic view of the phenomena under study on the basis of a comparative analysis.

The establishment of mentally-mediated links is realized by means of different educational disciplines that ensure the formation of components of the linguistic-self-educational activity, as well as the intellectual skills necessary for the future oil engineers in his professional activity. An example of such links is the actualization of knowledge and skills on the socio-cultural aspect of professional speech in the classes on the subjects of the humanities (Russian Language and Culture of Speech, Philosophy, Business Foreign Language, Foreign Language, Jurisprudence), natural science (Chemistry of Oil and Gas, Mathematics, etc.). And professional (Engineering Graphics, Heat Engineering, Oil and Gas) cycles. The development and proper use of professional terms by future oilmen is of particular importance in this regard. Teachers need to rely on mediated and applied communications, which involve the use of the concept of one science in the study of another.

The results of the work showed that it is possible to achieve the formation of the cognitive, sociocultural components of the linguistic-self-educational activities of future oilmen by systematizing the knowledge, skills and skills of students on the basis of integrating and coordinating the content of disciplines of different cycles, which constituted the content of the first of the conditions set out by us.

The second pedagogical condition is the development and implementation of a comprehensive methodological support for the formation of the linguistic-self-educational activities of future oil workers.

The creation of this condition is necessary to find additional resources for the implementation of the professionally-communicative component of the linguistic-self-educational activity of students. This condition includes the development of the structure and content of the electronic educational and methodological complex (EEMC) with the purpose of realizing the process of formation of the students' linguistic-self-educational activity. The preparation of this complex took place in two stages:

- highlighting the main sections of the EEMC;

- filling the contents of the selected components of the EEMC.

To work with electronic forms of the teaching and methodical complex, students should be able to register and access the educational material via the Internet.

Table 2
Electronic educational and methodological complex (EEMC)

Main sections of the EEMC	
Components of EEMC	Content
Training curriculum	The training curriculum is made by the leading teacher and is approved by the chairman of the council in the specialty, for students of which this discipline is taught. Contents of the training curriculum: 1) The purpose and objectives of the discipline. The place of discipline in the learning process. 2) The content of the educational material: - The content of the discipline (the name of the topics of lectures, their content, the amount of hours of lecture classes, a rating score). - The list of topics for laboratory and (or) practical classes, the volume in

	hours.
	3) The content of the independent work of students is filled in the form of a table in accordance with the form provided for monitoring the workload of students.
	4) Forms of current and final control, rating system of evaluation.
	5) Literature: basic and additional: textbooks, teaching aids, methodical instructions published by the department.
	6) Map of methodological support of the discipline
Methodical instructions	- to study the discipline,
	- for conducting and preparing practical exercises,
	- for the performance of laboratory work,
	- on the performance of independent work by students,
	- on performance of control works by students of the correspondence form of training,
	- on the organization and implementation of coursework (project) with a package of tasks.
List of recomending literature	Information and methodical materials, the bibliographic description of the literature (scientific, educational, special, electronic, etc.).
Glossary terms of course	Dictionary of specialized terms used in the oil and gas industry, with courtship, with translation, comments and examples.
Questions for the test, exam	The list of questions for state exam in the specialty (direction)
The evaluation funds	A certain number of control tasks, forms and procedures to determine the quality of studying the development of educational material.
Test	Entrance test
	Practice tests
	Current tests
	Final test
Supplementary material	Online learning resources. Computers and computer networks, interactive video; media education, educational equipment on the basis of electronic technology, educational computer programs, etc.

Thus, the creation of electronic educational-methodical complex contributed to the implementation of professional-communicative component of the system of students' linguistic-self-educational activity as:

 - it contributed to the formation of the teaching staff focus on the orientation of educational process on the issues of professional-personal and linguistic development and self-educational activities;

- it ensured the formation of a positive motivation to the competent decision of problems of formation of oil students;

- it ensured the transparency of the entity formation process of students' linguistic-self-educational activity.

The creation of this electronic version of methodological support for students, as well as the application of various forms of extracurricular work in the context of our pedagogical experiment, allowed us to form a praxeological component of the structure of the students' linguistic-self-educational activity.

Various forms of out-of-class work included:

a) Use of the television potential for the formation of ideas about the environment of speech communication in Russian and foreign languages, demonstrated in educational and scientific-cognitive films, teleconferences, videoconferences, scientific programs;

b) Using the potential of educational and production practices to form ideas about the environment of speech communication;

c) Attracting students to the development of the potential of educational and research work (implementation of educational projects, participation in grants, conferences, forums, competitions of research projects for the purpose of learning to find information on the directory, express their thoughts, write competently, compile reports (sections of the report), to interact with the audience, discuss and defend the results of their work.

d) Using the potential of self-study:

- preparation for classes, which are characterized by such types of work as abstracting, thesis, formalization, compilation of a conceptual apparatus of the studied problems and presentation materials reflecting the level of knowledge and skills of students, etc.);

- involving students in self-education activities (mastering the methods of working with electronic resources, design and systematization of accumulated materials) with the goal of forming knowledge on processing and information, listening to oneself, controlling what was said, working with textual sources, literate materials, concentration, perception and comprehension of information, comparison and opposition of facts and phenomena; using of various methods of thinking; systematization, text structuring, etc.

So, the second and third realized conditions are directed simultaneously to the implementation of the professionally communicative, praxeological and personal components of the system for forming the students' linguistic-self-educational activity of oil workers.

The effectiveness of the implementation of the two pedagogical conditions aimed at the formation of linguistic-self-educational activities is confirmed by reliable results of the pedagogical experiment, which was implemented in three groups of students. The results presented below prove that the introduction of an educational system of the formation of linguistic-self-educational activities of students-oil workers contributes to improving the efficiency of professional training of future oil engineers.

Table 3
Dynamics of the formation of the linguistic-self-educational activity of students in
the process (cognitive, praxeological, personal components) of experimental work (%)

Groups	Control Group			Exp. gr1			Exp. gr2			Exp. gr3		
Tests	Elementary	Intermediate	Final	Elementary	Intermediate	Final	Elementary	Intermediate	Final	Elementary	Intermediate	Final
Levels												
High	11,9	14,88	18,84	11,9	14,88	26,78	7,93	19,84	31,74	6,94	22,81	41,66
Average	51,58	51,58	55,55	59,60	52,57	53,57	43,65	43,65	51,58	42,59	49,60	49,6
Low	37,69	32,73	25,79	38,69	30,75	18,84	47,61	35,71	15,87	45,63	26,78	7,93

Our assumption was confirmed in the results of experimental work. The data in Exp. gr3, as noted above, exceed the results obtained in Exp. gr1 and Exp. gr2, and far exceed the data for Control Gr. So, during the pedagogical experiment of the formative experiment, a high level of linguistic-self-educational activity increased in Exp.gr1 and Exp. gr2 and in Exp. gr3.

4. Conclusions

Taking into account the evident positive growth in all indicators of the level of formation of the linguistic-self-educational activity of oil students in the experimental groups on the second test, the subsequent increase in their values at the final stage of the forming experiment, and also the positive dynamics of the changes in Exp. gr1, Exp. gr2 and Exp. gr3 in comparison with Control gr. We can conclude that the proposed pedagogical conditions are sufficient for the effective formation of the linguistic-self-educational activity of oil and gas students.

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