

# Subject-centered approach to integrated language-professional training: backgrounds and perspectives

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**Abstract.** In the context of dynamically updated professionally oriented information, the "erasure" of interdisciplinary boundaries, the demand for metasubject competencies the modern higher education system faces the need not only to choose innovative forms, methods and means of organizing the educational process, but to update the content of education taking into account the requirements for a modern graduate whose personal subject position in the process of his professional activity should be clearly "formalized" upon receiving his diploma. The theoretical study confirmed the demand for updating the content both on the behalf of the pedagogical community, and the employers who note the lack of readiness of most university graduates to make independent decisions in real professional situations and be responsible for them. This fact actualizes the need to study the problem of updating educational content through strengthening interdisciplinary links in the process of integrated language-professional training from the position of a subject-centered approach.

## 1 Introduction

The dynamic pace of modern life places a university graduate in the situation where the renewal of professional knowledge is so rapid that to maintain one's competitiveness the specialist cannot limit himself to the knowledge obtained while getting the higher education. There is the need for systemic, conscious, organized self-evolution in the process of self-education throughout his life. The condition for consistent personal and professional evolution, productive independent activity, progressive self-improvement of the student's personality in the pursuit of the acme is the unity of a mutually conditioned, mutually dependent and mutually reinforcing triad - subjectivity < - > subjective position < - > subjective regulation of activity [1, 2, 3].

Since "only a certain level of a person's self-evolution ensures the actualization of his needs, skills and capabilities to self-realization it in an appropriate form" [1], the paradigm of educational content of a higher education should be changed to make passive transmission / reproduction of knowledge to students impossible due to the orientation to the student's

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subjectivity, who (in this case) acts as a system-*co*-creative component of a higher education content [2].

Subjectivity is the key requirement for a modern graduate, that is mentioned in the Concept of the Development of Russian education for the period until 2020, the National Doctrine of Education of the Russian Federation until 2025, Federal State Educational Standards. Subjectivity is the motivated involvement in continuous self-evolution, self-improvement, self-organization, the ability to make timely and justified innovative decisions, to anticipate awareness with advanced professional experience for the purpose of self-realization in the chosen profession. A great role in intensifying professional information exchange is played by the virtual information space, which poses an important requirement for its users - the ability to communicate by means of various languages. In this regard, it is necessary to provide students with the necessary arsenal of skills to enable them to carry out effective professional communication in both native and foreign languages. The unity of the professional and linguistic skills of a student – as the subject of the educational process – their integration through strengthening interdisciplinary links while studying a foreign language and special disciplines, will provide the specialist with the background for professional and personal success, thus creating an innovative professional resource for the development of the country.

## 2 Purpose of the study

The purpose of the study is to substantiate the need to organize integrated language-professional training at a university from the position of a subject-centered approach focused on creating the conditions for a student's productive independent activity in the context of his future specialty, undergoing the stage of professional development as a subject of both his professional education and activity, forming his professional knowledge and experience, consciously structuring them in accordance with emerging professional tasks.

## 3 Literature review

Despite the increasing number of the researches devoted to reframing the problem of teaching a foreign language at a university from the point of view of professional orientation of educational content, it is necessary to consider the effectiveness of introducing integration not only at the level of interdisciplinary interaction, but in the context of the future specialty. This will allow to form the required communication skills at the stage of obtaining higher education by application the knowledge gained while studying special disciplines to solve professionally-oriented problems in specially simulated communicative situations both in native and foreign languages. In other words, this is the integration at the level of a foreign language and a chosen profession, implemented in the process of integrated language-professional training, which provides the student with the opportunity to take a “subject-subject position” not only in the student-teacher's duad, but towards directly the content of education, thus gaining subjective experience [4, 5, 6].

Updating the content from the position of a subject-centered approach is the replacement of a subject-centered educational content with a problem-centered one, excluding the student's passivity when mastering new knowledge, which takes place in the modern educational process [4, 5, 6].

The problem of updating the content of higher education in modern scientific papers is described mainly from the point of view of its fundamentalization, knowledge intensity, student involvement in research activities, the introduction of digital technologies in the conditions of digitalization of education, etc. [7, 8] However, from the point of view of the

background for updating the content of education from the position of a subject-centered approach, the following areas of research can be distinguished: student's self-realization in the educational process [8], subjectivity as the basis of personality [3], the role of the student's subjective position in the cognitive activity (reflexive pedagogy - S.D. Neverkovich [9], contextual training - A.A. Verbitsky, E.P. Komarova [10]), designing the content of education that actualizes the student's subjective position through building a knowledge component of educational content [11,12, 13].

The problem of a student's subjectivity and the orientation of the educational system to the organization of its content in order to update the student's subjective position has been considered since the end of the 19th century. However, a small number of researches are presented for scientific discussion, offering a systematic approach to changing the content of a higher education, the design of which will be "open, incomplete" [2, 4, 12], providing the student with the opportunity to show selective activity in mastering the new material, to act as a subject of his education. Mastering the content of such an education is possible only in the context of problematic education, which is more preferable at a university than a subject education [1, 10, 12]. In this case, the student acquires subjective experience in the process of resolving professionally oriented tasks that encourage the manifestation of subjective activity, the implementation of search, transformative, productive, projective actions on his behalf [2, 4]. Such an organization of the content of education provides the formation of competencies, excluding simple reproduction of subject knowledge, therefore professional formation is evaluated not by the ability of the student to reproduce the subject knowledge, but through the assessment of "new products" reflecting his professional competence [6, 12].

## 4 Methods and organization of the research

Evaluating possible effectiveness of the implementation of integrated language-professional training in the educational process of the university from the position of a subject-centered approach, we relied on theoretical background on the problem of study, on the experience of pedagogical practice in interdisciplinary interaction of university teachers, as well as on the data obtained during the experiment conducted at the Foreign Languages Department of Military Educational and Scientific Center of the Air Force «N.E. Zhukovsky and Y.A. Gagarin Air Force Academy» (Voronezh). 87 senior cadets (divided into control (CG) and experimental (EG) groups) took part in the experiment.

To determine the effectiveness of the educational process on the basis of integrated language-professional training focused on the student's subjective experience, it is necessary to diagnose the results of independently performed activities achieved by each cadet (student's subjective position). To this end, structural components, criteria and indicators were defined to determine the level of a student's independent activity (Table 1).

The main means of presenting material in the educational process is a textbook, however, during the period of intensive digitalization of education, the e-textbook allows integrating various forms of educational material that contribute to the differentiation (in terms of the level of a student's knowledge and skills) and individualization (based on a student's interests) of studying.

**Table 1.** Criteria for the formation of students' independent activity

Component	Criteria	Indicator	Level		
			Reproductive	Productive	Creative
Motivational-valuable	Axiological	- emotionally positive attitude towards independent activity; - implementation of independent activity with the awareness of its value for the further professional self-realization	is focused on mastering the invariant theoretical part of the studied discipline; no initiative in implementation independent activity, no skills of independent targeting; external control is required.	realizes the role of implementing activity independently; Assistance in setting the goals is needed; is able to set tasks regarding the set of goals.	has a sustained motivation to carry out independent activity, based on accessible information sources and educational resources.
Cognitive	Knowledgeable	- knowledge of the algorithm for implementing activity independently; - the ability to systematize, analyze and summarize information.	uses material adapted to the objectives; there is no need to find additional information.	knows how to obtain additional information on the subject under study; uses the acquired knowledge in familiar situations, but requires help to solve non-standard problems.	knows how to get necessary information on the topic under study from various sources; sets his own goal and adequate tasks; searches for the necessary information both independently and in cooperation.
Active	Pragmatic	- ability to model professional situations in the educational process; - skills of independent activity in professionally-oriented situations.	carries out independent activity following the pattern, on the basis of the proposed plan.	knows how to set goals independently or following the advice.	fully proficient in self-targeting, can predict the expected results.
Reflexive-evaluative	Reflexive	- ability to assess independent activity through self-reflection; - the ability to self-correct activity according to the set of goals.	capable of evaluating independent activity according to a given algorithm or in the presence of external control.	independently determines the degree of progress towards the set of goals due to analytical skills, but needs assistance in predicting possible barriers in achieving goals.	performs self-reflexion of his activity, independently assessing and correcting it adequately to the situation.

During the pedagogical experiment on the implementation of integrated subject-language training, teachers of the Foreign Languages Department, together with the teachers of major disciplines of the Academy developed the e-textbook aimed at improving the independent activity skills for the purpose of further self-evolution, self-education and self-actualization in the profession, excluding possible language barriers.

The e-textbook interface has intuitive control. The non-linear presentation of information through the hyperlink system allows the student to independently choose the necessary material, based on the student's goals and tasks. The e-textbook presents authentic texts, audio and video materials, problematic tasks that allow one to immerse in a professionally-oriented environment, while simultaneously mastering professional knowledge and the language of the profession in a foreign language, relying on acquired knowledge as part of the study of other disciplines, which makes the content of education "open" (following the

principle of a subject-centered approach [2, 4, 6, 13], and the level of complexity of professionally oriented tasks “non-reducible”.

## 5 Results

The verifying, forming and final stages of the pedagogical experiment in the control (CG) and experimental (EG) groups revealed a significant difference in the level of students’ independent activity for each of the components (Table 2):

**Table 2.** Dynamics of increasing the level of independent activity of students (results of verifying (VS) and final (FS) stages).

Component	Control Group						Experiment Group					
	Level, %						Level, %					
	Reproductive		Productive		Creative		Reproductive		Productive		Creative	
	VS, %	FS, %	VS, %	FS, %	VS, %	FS, %	VS, %	FS, %	VS, %	FS, %	VS, %	FS, %
Motivational-valueable	51,2	39,5	34,9	34,9	13,9	25,6	50,0	22,7	36,4	36,4	13,6	40,9
Cognitive	55,8	48,8	32,6	32,6	11,6	18,6	54,5	29,5	34,1	31,8	11,4	38,7
Active	58,1	48,8	32,6	30,2	9,3	21,0	59,1	29,5	31,8	34,1	9,1	36,4
Reflexive-evaluative	55,8	46,5	32,6	30,2	11,6	23,3	56,8	22,7	34,1	34,1	9,1	43,2

The results of the final stage of the experiment were verified by statistical processing based on Wilcoxon-Mann-Whitney test. Significant differences were identified in the levels of students’ independent activity in control and experimental groups ( $p < 0.05$ ).

## 6 Conclusions

Thus, the theoretical justification and practical implementation of integrated language-professional training at a university from the position of a subject-centered approach makes it possible to state that:

1. Integrated language-professional training from the position of a subject-centered approach excludes the "monopolistic" base of the educational process, responding to the challenges of modern world realities and global trends, intensively involving specialists from different countries in the professional dialogue;
2. Formation of students’ independent activity skills while mastering educational material within the framework of integrated language-professional training contributes to the increase of students’ motivation to study disciplines in terms of their interdisciplinary, but not isolative, nature;
3. The synergistic potential of the joint activities of teachers of both foreign language and major disciplines creates a fundamental base of integrated language-professional training, performed in educational editions implemented in the educational process of a university.

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