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PEDAGOGICAL CONDITIONS FOR THE PROFESSIONAL DEVELOPMENT OF STUDENTS OF HIGHER EDUCATION THROUGH THE DISCIPLINES OF THE GENERAL UNIVERSITY BLOCK

CONDICIONES PEDAGÓGICAS PARA EL DESARROLLO PROFESIONAL DE LOS ESTUDIANTES DE EDUCACIÓN SUPERIOR A TRAVÉS DE LAS DISCIPLINAS DEL BLOQUE UNIVERSITARIO GENERAL

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ABSTRACT

The article defines the features of the professionally-oriented development of future fagivts in classes at the out-of-university block. Communicative criteria are characterized as indicators of the professionally oriented development of students and, on this basis, a diagnosis of the professionally oriented development of students is carried out. Engineering, technology, and professional development exercises have been developed as the basic foundations of pedagogical support for general cultural training of students. The effectiveness of the organizational and pedagogical model and pedagogical conditions for the professionally oriented development of future engineers was tested.

Keywords:

Out-of-university block, communicative criteria, basic foundations, pedagogical conditions.

RESUMEN

El artículo define las características del desarrollo profesional de los futuros docentes en las clases del bloque extrauniversitario. Los criterios comunicativos se caracterizan como indicadores del desarrollo profesional de los estudiantes y, sobre esta base, se realiza un diagnóstico del desarrollo profesional de los estudiantes. Se han desarrollado ejercicios de ingeniería, tecnología y desarrollo profesional como fundamentos básicos de apoyo pedagógico para la formación cultural general de los estudiantes. Se comprobó la eficacia del modelo organizativo y pedagógico y las condiciones pedagógicas para el desarrollo profesional de los futuros ingenieros.

Palabras clave:

Bloque extrauniversitario, criterios comunicativos, fundamentos básicos, condiciones pedagógicas.

INTRODUCTION

It is generally accepted that integrative tasks should include a comparative analysis of knowledge from those subject areas that are being integrated, and the integrative situation should be based on a problem situation that causes intellectual difficulty. Of course, this is most often what happens.

However, when it comes to physical culture and sports, where it is not the intellectual, but the motor function that comes to the fore, pedagogical integration must take into account the deep processes of the relationship between the physical, cognitive, and communicative development of students.

Practice shows that communicative criteria as indicators of professionally oriented development are practically not used in classes in general cultural disciplines. Educational programs do not actually provide for the integration of, for example, physical, professional, and especially communicative development.

An analysis of scientific literature and experience in teaching physical education at universities shows that cognitive activity related to intelligence, thinking, verbal and non-verbal communications among students with increased requirements for constructive creativity should not be limited only to sports achievements (or non-achievement), it should have an integrative character and be professionally oriented.

The didactic principle of professional orientation in the content of non-core disciplines means the implementation of three aspects: cognitive, associated with the acquisition of professionally significant knowledge by students; moral and ethical, which involves introducing students to the norms of behavior accepted in a particular professional group; worldview (value), aimed at developing a value-based attitude towards the profession.

Therefore, the professionally-oriented development of students when mastering disciplines of the general cultural block should involve the acquisition of new professionally significant knowledge, familiarization with the moral and ethical standards of people engaged in this profession, and the formation of a value-based attitude towards their profession.

How to organize classes in the disciplines of the general cultural block so that the result is not only physical (in physical education classes), philosophical (in philosophy classes), cultural (in cultural studies classes), but also communicative achievements of students?

Thus, the relevance of the study is due to the aggravation of contradictions between:

- the need for pedagogical (interdisciplinary, integrative, digital) provision of professionally oriented development of students in classes of the general cultural block, on the one hand, and the undeveloped pedagogical conditions for the implementation of this orientation in universities, on the other hand;

- requirements of the state standard and educational programs of disciplines of general cultural training and the needs of professionally oriented development of students;

- setting students up for professionally significant knowledge and the absence in the disciplines of the general cultural block (for example, in physical education and sports, philosophy, cultural studies) of any components of interdisciplinary communication with professionally significant content.

Current trends in education require teachers to demonstrate preventive behavior and bear

responsibility for changes in school practice. The article by Džinović et al. (2013), is devoted to the study of how teachers perceive their own initiative and ideas about the activities in which such initiative is demonstrated. The results of the study showed that the teachers mainly demonstrate initiative through joint activities, including the planning of joint education, as well as joint projects in the school. It is revealed that the teachers are least ready to demonstrate personal initiative, as well as the initiative aimed at achieving making significant changes in the school work. However, the study does not directly determine the relationship with the degree to which their subjective position is formed.

Lindemann & Saar (2014), identify characteristics along with economic factors that change the influence of personality characteristics on a subjective position. Presumably, this can be caused by the conditions for the development of the students' subjective position in the process of vocational education at the university. The result of the analysis also showed that assessment of the social status is affected by the degree of inequality in the sphere of education level and income in society.

In the study done by Miething (2013), it was revealed that people with a weak subjective

position, in combination with a lower professional position, have more health problems. The influence of the social position on health was also studied by other authors (Macleod et al., 2005; Goldman et al., 2006; Garbarski,

2010), also on the basis of MacArthur Scale of Subjective Social Status.

As emphasized in the article by Ejrnæs and Greve (2017), the forces determining the personal development of the learner are inside the person, and are conditioned by internal factors and set in motion when the pedagogical conditions are created for them

development. To substantiate these conditions, which ensure that students achieve the necessary level of self-education, independence and self-organization, it is viable to determine the content of the person's subjective position and the conceptual basis for its formation.

In the literature studied by the authors, the essence of a person's subjective position is viewed as a total of social relations (a person's activity in a team, their relationship with team members, society, etc.), acting as part of the personality that is a person's social

quality. Thus, Vygotsky (2003), emphasizes that a person's main function is the creative mastery of the social experience through the inclusion of the person in the system of social relations. According to Leontiev (1975), a personality, as a special quality, is formed by the individual through their involvement in social relations. Hence it follows that all aspects of the personality are revealed only in activities and relationships with other people in the social environment. As can be seen, the source of the formation of a person's subjective position along with their internal opportunities is the environment in which the personality is formed.

MATERIALS AND METHODS

The purpose of the article is to develop pedagogical conditions that ensure professionally oriented development of students through the disciplines of the general cultural block.

Object of the article: the process of professionally-oriented development of students in universities when studying disciplines of the general cultural block.

Subject of the article: pedagogical conditions for the professionally-oriented development of future teachers in the classroom.

Hypothesis of the article: classes in the off-campus block will ensure professionally oriented development of students if the following pedagogical conditions are taken into account:

- identification and consideration in the educational process of psychological and pedagogical features of professionally oriented development of students;

- use as a criterion for the professional development of students, in addition to traditional communicative criteria;

- implementation of educational engineering in the classroom, which involves the use of technology for integrating physical education, professionally oriented and communicative exercises;

- pedagogical support for the content of professionally oriented development is based on a specially developed organizational and pedagogical model.

Research methods: psychological and pedagogical experiment, methods of structural analysis of statements, mathematical and statistical processing.

The conducted research shows that both students and teachers attach particular importance to live communication when studying specialized disciplines related to the development of the architectural and construction field of activity. To master the physical education program, paradoxically, the majority of students (72%) are satisfied with the distance learning form. Only 4% of teachers agree with them. This suggests that in modern conditions it is obvious that digital education should not deny the experience of the past (including traditional and innovative) education; it should be based on traditional new didactics, developing personalized methods and innovative technologies developed in recent years for the gamification of education, project-based, problem-based developmental learning, technologies for the development of individuality, giftedness, etc.; traditional electronic educational resources and digital educational resources should be modified taking into account full (and not partial) contactless interaction, up to the development of technologies for contactless recruitment of applicants and contactless final certification of graduates (Goldman et al., 2006).

The psychological and pedagogical features of the interaction between teacher and student in the context of traditional and digital education differ significantly: in the traditional format, both classes and the physical development of students take place in special gyms using sports equipment and under the supervision of a teacher; in distance conditions, the emphasis is on the student's independence, self-organization and discipline, pedagogical control with the student is difficult, and the results of students' physical development may not be sufficiently objective and reliable.

It was found that the effectiveness of higher education in distance learning is determined by such factors as explanatory and pedagogical, evaluative, technological, psychological, and multicultural. All these determinants must be taken into account when constructing experimental

teaching technology (Merchie et al., 2016; Gràcia et al., 2020; Valdez-Esquivel & Pérez-Azahuanche, 2021).

When analyzing the characteristics of multicultural interaction between teacher and student, it was found that in this interaction there are problems associated with the students' native language, poor knowledge of the language of science, etc.

Research shows that professional orientation is most obviously reflected through the student's communicative activities (Džinovic et al., 2013). Therefore, in physical education classes there is a need for integration of cognitive, communicative and physical activities.

Communicative exercises, integrated and synchronized with physical ones, should involve three aspects:

- 1) actually cognitive, involving the use of cognitive information about the creative activity of the future architect;
- 2) moral and ethical, associated with introducing students to the norms of professional behavior accepted in the corporate culture of architects;
- 3) value-based, focused on developing love for the chosen profession, interest in creative professional (architectural) activities.

An important indicator of professionally oriented cognitive development is communicative ability, that is, the ability to speak and reproduce words and sentences coherently, to show the skills of understanding, comprehension, reproduction, and construction of text.

The specificity of the development of professionally oriented abilities of future architects in physical education classes is that cognitive regulation is associated only with the implementation of physical exercises provided for by the university program, and is in no way connected with the student's future professional activity (with his professionogram).

The empirical data obtained during the study suggests that both students and teachers have a not very high level of communicative competence (coherent speech). Those who are engaged in scientific or literary-creative activities (read a lot, write articles themselves, publish, speak at conferences, etc.) speak more or less coherently. That is, people with a pronounced cognitive orientation stand out noticeably from those around them with their ability to coherently express their thoughts, reason coherently, debate and convince.

Therefore, for an objective diagnosis of the level of development of coherent speech (as an indicator of professionally significant communicative qualities), a technique is needed that reveals the anthropological essence of

coherent speech. Such a technique could be a technique for diagnosing interphrase connections. The category of speech coherence (text integrity, correctness of text units and interphrase connections) can be used as an indicator of a student's cognitive and communicative development and is actively used in the preparation of future bachelors in higher educational institutions of any profile (Miething, 2013).

When diagnosing the initial level of communicative development of students, it was found that the lowest results - the absence of indicators - are found when analyzing the semantic indicator (61% of students) and the interphrase indicator (49% of students), that is, when searching for a topic in statements (what is being said?), the main idea (what exactly is being said about the topic?), personal position (what do I think about this?), the majority of the interlocutors were unable to show anything at all - to reveal the topic, the main idea and formulate their attitude to the topic.

When analyzing interphrase connections in statements, it was found that 49% of students were unable to use lexical repetitions in their statements (repetitions of the same words to connect sentences with each other, and this is the 1st level of assessment), correctly use word order in statements, various types of sentences (2nd level of assessment), techniques of artistic expression (3rd level).

The strategy of professionally oriented communicative development should take into account the manifestations of mixed and subordinate bilingualism, which negatively affects the development of the cognitive sphere of students; provide immersion in the language environment, introduce coherent speech.

The results of the propaedeutic pedagogical experiment showed that in order to increase the effectiveness of physical education classes, the manufacturability of their organization and conduct is necessary. Technology should be built on the principles of systematicity, continuity, and integrativeness. The technology must include the stages of motivation, modeling and implementation.

Diagnostics of professionally oriented communicative development of students, carried out at the end of the semester based on the results of the formative experiment, showed that the presence of a topic characterizes 46% of students (versus 24% before the formative experiment), the presence of a main idea - 32% of students (versus 15% before the experiment). At the interphrase level, the use of lexical repetitions characterizes 55% of students (versus 36% before the formative experiment). The picture is similar for other indicators.

All the data obtained indicate that the professionally oriented communicative side of students' personality development has changed significantly in a positive direction.

Among the most important components are:

- goal (diagnostic monitoring of the training of a future specialist, determination on its basis of effective technologies for organizing physical education classes, their implementation in the first year of university);
- methodological principles (continuity, integration of physical and professionally oriented communicative development; text-centric principle aimed at mastering coherent speech);
- technologies (personification, integration, gamification technology of education, facilitation technology);
- functional organizational and pedagogical mechanism (based on the implementation of functions: diagnostic monitoring of the level of development of physical and communicative abilities of students, etc.);
- pedagogical conditions (psychological features of professionally oriented development of students (engineering of integrated exercises of professional orientation; technology of integration of physical and professionally oriented communicative development);
- didactic means (content of physical exercises; text content of communicative exercises; melodies for musical and rhythmic exercises);
- accentuation of professionally oriented communicative competencies (cognitive, activity, personal).

During testing of the model, the degree of manifestation of accentuations of professionally oriented competence of future architects before and after the experiment was investigated.

It was found that there were positive dynamics in accentuations - changes in the number of students with a high level of personality-oriented knowledge, skills and abilities, which amounted to 33%, which is 23% higher than before the experiment.

Cognitive accentuation – 51%, which is 40% higher than before the experiment. Activity – 49%, which is 31% higher than before the experiment.

The statistical significance of the correlation was assessed using the Stutend and Fisher criteria. The statistical significance of the results obtained from the study (from 4.1 to 4.4 in different years, that is, always more than 3 at a given significance level $\alpha = 0.01$) suggests that the didactic materials we developed are a set of integrated exercises, technology and the model for their implementation had a positive impact on the development

of professionally significant cognitive and communicative abilities of students.

The psychological and pedagogical features of the professionally oriented development of students are clarified. It is shown that the professionally oriented development of future engineers in classes at the out-of-university block should take into account the cognitive needs of students, the anthropology (nature) of traditional and distance interaction, and the multicultural (linguistic, bilingual) characteristics of students who have undergone pre-university training in specific conditions.

The methodology for using communicative criteria as indicators of professionally-oriented development of students is substantiated. It has been proven that the professional development of students, their motivation for this development depend on their ability to maintain a dialogue with the teacher, construct a monologue, understand and convey the topic of the statement, the main idea, the interphrase connection between the educational and scientific text and their statement;

Pedagogical support for professionally-oriented development has been developed, the content of which included educational engineering (pedagogical system) of integrated exercises of a professional (cognitive, moral-ethical, value) orientation; pedagogical technology for integrating physical and professionally oriented development of students;

An organizational and pedagogical model of professionally oriented development of students was experimentally tested, including goals (diagnostic, conceptual, prognostic), morphology of integration at the methodological, theoretical and practical levels; methodological principles (continuity, integrativeness, communicativeness); integration technology; functional organizational and pedagogical mechanism for professionally oriented development; pedagogical conditions for development (taking into account the psychological and pedagogical characteristics of students' professional development; engineering of integrated exercises; technology for integrating physical and professional development); didactic means (content of physical exercises, text content of communicative exercises, melodies for musical and rhythmic exercises). The degree of emphasis on the professionally-oriented development of students from the point of view of cognitive, activity and personal components was tested.

The pedagogical conditions for the professionally-oriented development of future engineers in classes in the disciplines of the general cultural block are substantiated: taking into account the psychological, pedagogical, multicultural characteristics of students; use of communicative criteria in educational work; implementation of

educational engineering in classes to integrate physical and professional development; inclusion of an organizational and pedagogical model of professional development in the educational process.

CONCLUSIONS

The study contributes to the didactics of higher education, expands ideas about the features of professionally oriented development of students, educational engineering, pedagogical technologies, models of integration of professionally oriented communicative and physical exercises that ensure the professional and communicative development of bachelor students.

Theoretically substantiates the content of pedagogical activities of teachers of disciplines of the general cultural block in the context of the development of interdisciplinary and digital education, specifies and complements the didactic principles of distance education. Reveals the didactic specificity of the professional orientation of the disciplines of the general cultural block (using the example of physical education and sports).

Theoretically substantiates the pedagogical determinants of increasing the effectiveness of higher education in the context of the development of digital resources: 1) explanatory and pedagogical; 2) evaluative; 3) technological; 4) psychological; 5) multicultural.

The teaching of general cultural disciplines should be built in universities on the basis of taking into account the psychological and pedagogical characteristics of the professionally oriented development of students. These features include: the cognitive needs of students, anthropological characteristics of traditional and distance interaction, multicultural (linguistic, bilingual) and communicative qualities of students who have undergone pre-university training.

As criteria for the professional development of students, in addition to traditional pedagogical ones, it is advisable to use communicative criteria. These criteria (the ability to speak coherently, meaningfully and on topic) most fully show the professional motives, interests, preferences, professional knowledge of students and their professional culture.

Professionally oriented development of students when mastering disciplines of the general cultural block can be built on the basis of the implementation of pedagogical technology for integrating professionally oriented and communicative exercises, based on the use of the organizational and pedagogical model of professionally oriented development of students presented in the study.

The integration of communicative and physical exercises will ensure the professionally oriented development of future architects if the psychological characteristics of the professionally oriented development of students, the anthropological characteristics of the interaction between teacher and student, and the specifics of the development of professionally oriented abilities of future architects are taken into account in physical education and sports classes. In remote conditions; communicative criteria will be used as a criterion for professionally oriented and professionally oriented communicative development of students in physical education classes; During physical education classes, the engineering of integrated exercises with a professionally oriented communicative orientation will be implemented, and the physical education classes themselves will be conducted based on technology and an organizational and pedagogical model of professionally oriented development of students.

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