

Psychological and Pedagogical Aspects of Increasing the Educational Process Efficiency in a University for Specialists in the Field of Physical Education and Sport

Aspectos psicológicos y pedagógicos del aumento de eficiencia del proceso educativo en una universidad para especialistas en el campo de la educación física y el deporte

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ABSTRACT:

The article presents theoretical integration and practical solution of the problem of increasing the efficiency of the educational process in a university for specialists in the field of physical education and sport by developing pedagogical proficiency in the process of professional training. Based on the conducted experimental study, the article provides a conclusion that developing pedagogical proficiency is possible only within personality-oriented education and mentoring, and subject-subject interaction between teacher, student and the environment. Organization of such education and interaction is conducted only in the presence of high level of self-awareness and motivation in a student – prospective specialist in the field of physical education and sport. The results of the study showed that, during the time of the developmental stage of the study, experimental group (EG) demonstrated changes in the distribution upon

RESUMEN:

El artículo presenta la integración teórica y la solución práctica del problema de aumentar la eficiencia del proceso educativo en una universidad para especialistas en el campo de la educación física y el deporte mediante el desarrollo de la competencia pedagógica en el proceso de formación profesional. Basado en el estudio experimental conducido, el artículo proporciona una conclusión de que el desarrollo del dominio pedagógico es posible solo dentro de la educación y tutoría orientada a la personalidad, y la interacción sujeto-sujeto entre el profesor, el alumno y el entorno. La organización de dicha educación e interacción se lleva a cabo solo en presencia de un alto nivel de autoconciencia y motivación en un estudiante - prospectivo especialista en el campo de la educación física y el deporte. Los resultados del estudio mostraron que, durante el tiempo de la etapa de desarrollo del estudio, el grupo

the levels of pedagogical proficiency development. The validity of the results of the conducted study is confirmed by the statistical methods.

Keywords: Pedagogical proficiency, criteria of pedagogical proficiency, levels of pedagogical proficiency

experimental (EG) demostró cambios en la distribución sobre los niveles de desarrollo de competencia pedagógica. La validez de los resultados del estudio realizado se confirma por los métodos estadísticos.

Palabras clave: competencia pedagógica, criterios de competencia pedagógica, niveles de competencia pedagógica

1. Introduction

Reformation of the higher education system and introduction of multilevel education, which required changing the study plans, programs and schedules of the educational process, have not yet had a significant effect on the quality of students' education in the national universities. The problem of improving the process of organizing educational and cognitive activity of university students in the process of their professional training.

The defining role for increasing the efficiency of the educational process for the prospective specialists in the field of physical education and sport (hereinafter, PES) belongs to the development of their pedagogical proficiency (hereinafter, PP). It gains special significance in the training of the prospective coaches and physical education teachers, because only a creative person with well-rounded development, who mastered it, will be able to attract people who train and students, and provide correct motivation for their athletic and educational activity.

Definition of PP differs in the comprehension of different researchers. Namely, international pedagogues define PP as a synthesis of highly developed personal and professional qualities of a teacher, while the integration of knowledge, abilities and skills is their necessary component (Muntaner-Mas et al., 2017; Bietenbeck, 2014). In turn, national scientists base their definitions on the humanitarian and generally-developmental meaning of education. They point to the significance of pedagogical skills that, together with knowledge and technologies, allow organizing and conducting the educational process of a high level, and achieving high results, primarily, in mentoring and developmental goals (Mirza, 2008, pp. 41-43; Khomenko, 2015; Aytzhanova & Abdina, 2014).

S.D. Yakusheva defines PP as a special state of teacher's personality, which allows combining naturally external high requirements to the organization, performance and results of his activity with internal freedom and creative process. Such dialectic combination provides high quality of tactical and strategic solution of pedagogic situation and achievement of pedagogical goals, while a teacher, using pedagogical and global cultural experience, remains original and unique, and thus directs and stimulates the students to the cathartic abrupt development of their personality (Yakusheva, 2011, pp. 43-44).

Researchers define PP of a PES specialist as the ability to creatively solve pedagogical problems during a lesson or training and organizational issues of the educational and mentoring process in general, at the background of high cultural level, professional knowledge, physical skills, etc. (Shotskiy, Belova & Lopatik, 2015).

Historically, European pedagogical practice has established a classification of PES specialists based on the level of their competency:

- With satisfactory professional pedagogical competence (formally conducts the study plan, lacks professional motivation, and, as a result, lacks the dynamics of pedagogical growth);
- Performs his duties at a sufficient level without engaging innovative and creative approaches, with the use of traditional array of educational techniques and methods;
- Creatively-oriented teachers with high motivation that constantly perfect the PP (Nová, 2015).

Internal foundation of the PP consists of the need, urge, skills and ability of self-perfection; furthermore, each separate athletic specialization has their own specific focuses of the PP development (Skinner & Gilbert, 2007).

Currently, PP and its components are measured by the productivity, or, broadly speaking, by the efficiency of the pedagogic activity. Hence, PP is a system of teacher's professional and personal qualities that allows him to achieve high educational and mentoring results in the

interaction with his students.

To summarize, the PP of a PES specialist, apart from personality qualities, is based on openness towards all objects and subjects of the educational process, constant progress and original approach to solving pedagogical problems (tactical level), tasks and goals (strategic level).

2. Study organization and methods

Participants in the study were 118 students of 1-4th academic years. All students were divided into two groups: CG (47 people) – control group, and EG (71 person) – experimental group.

Such division into the groups was defined by the relevance of evaluating the effect of a system of developing influences on the efficiency of PP development in PES specialists in the process of the professional training. In the control group, students' education was conducted in the traditional way.

In order to obtain fully objective results of the pedagogical experiment, an expert group was involved in conducting the study. The group included experienced teachers, researchers and specialists, mentors of the academic groups. The main goals of the expert group's activity included:

- General evaluation of the capacities of PP development in PES specialists;
- Conductance of diagnostic procedures and evaluation of PP development in PES specialists;
- Analysis of qualities and efficiency of the diagnostic inventory;
- Recording of the observed changes during PP development in PES specialists.

The aim of the experiment was to define the level of PP development in PES specialists. We proposed the following criteria of PP development: motivational and cognitive. Motivational criterion is characterized by such traits, as positive motivation for professional activity and need to become a PES specialist that concludes in the urge to become a master teacher, along with the dominance of a motive for achieving success in professional activity. Cognitive criterion is measured by the following characteristics: clear knowledge of PP and its manifestation in the professional activity of a PES specialist, knowledge of its structural elements, methods, forms and technologies of PP development.

The abovementioned criteria allowed defining the following levels of PP development in a prospective PES specialist: creative, productive, reproductive and elementary.

The study was conducted with a system of pedagogical methods (table 1).

Table 1
Organization of the pedagogical experiment

| No. | Name of control-measures module | Stages of the experiment with the description of control-measures module | |
|-----|---------------------------------|--|---|
| 1 | Pre-experiment testing | Exploratory-analytical | Expert group's evaluation of the general level of PP development in physical-education specialists in the process of professional training (initial state) |
| 2 | Selection testing | | Establishment of CG and EG according to the results of the test |
| 3 | Control testing 1 | Developmental-experimental | According to the results of the test, the dynamics of the process of developing PP's motivational criterion in PES specialists during the process of professional training in CG and EG are being evaluated |
| 4 | Control testing 2 | | According to the results of the test, the dynamics of the process of developing PP's cognitive criterion in PES |

| | | | |
|---|---------------|-------|--|
| | | | specialists during the process of professional training in CG and EG are being evaluated |
| 5 | Final testing | Final | Evaluation of the general level of PP development in PES specialists in the process of professional training (final state) |

An important theoretical hypothesis is the statement that only part of the students can reach high level of PP in the field of teaching PES. However, other students can reach high or relatively high level. Because of this, theory of inclusion – inclusive education of students with different needs and capacities – is relevant. This theory is especially relevant at present, when the number of applicants in all Russian universities decreased because of the demographic crisis of the end of 1990s, and therefore, their level is mostly average.

Considering this significant objective factor, we hypothesized that, at the instrumental, representative and minimally creative levels, it is possible to improve PP in students with average level of preparation by actualizing their personal intentions, which often lie in the space that is not directly linked with pedagogical or physical-education activity.

To summarize, the main part of the experiment consisted of the following:

- Modified content of the “Pedagogical proficiency” course and adjacent subjects, in particular, in the direction of including supplementary extra-athletic factors – achievements of culture, art and adjacent sciences.
- The focus was made on actualizing and engaging personal preferences, hobbies, activity and cognitive prerogatives, athletic achievements, etc., in the individual professional diagram of each student of the EG.
- A number of supplementary special courses and seminars was introduced with the variable component of the study plans, namely: “Theory and practice of PES teacher’s self-development”, “Cultural heritage at the physical education lessons”.
- A large part of study time (round 60%) was assigned to the independent work, conductance of individual research studies, course works in adjacent subjects, etc.
- Praxeology component (industrial internships, seminars, demonstrative lessons within the methodic subjects) was highly individualized: it was allowed to use personal experience and intention (music, art, hobby) on the basis of the mandatory component of the education content.

One of the key points that is stated and put in the foundation of the study is the statement about student’s multicomponent educational activity, which consists of two to five components, according to the works of different researchers. We generalized them and defined three main components of activity that imply progress and perfection of a prospective PES specialist: initial skills (pedagogical skills, physical preparation, high results of external independent evaluation (EIE)), motivational field (wish to work in the PES field, need in self-perfection, etc.), and cognitive field. The latter is external with respect to the student and is defined by teachers’ activity.

At the initial stage, all students participated in general survey, which defined their pedagogical skills and studied motivational field for the readiness and wish to work in the chosen professional field. Simultaneously, the results of EIE were studied.

Integral stratification of students of 1-4th academic years is represented by the following statistical data:

- Students with high IEI score (170 and higher), high physical characteristics (175 and higher) and sufficient level of motivation for the prospective activity – 12%. Here, it is necessary to point out that the demographic state in the country has a certain effect on the experimental part, which consists of the fact that the acceptance score in IEI and creative competition is decreased in comparison with the beginning of the 2000s.
- Students with sufficient score on the Unified State Examination, average physical characteristics and level of motivation – 36%. Such people study primarily at the contractual form of education, which generally decreases the level of motivation and successfulness.
- Students with satisfactory scores, who study only at the contractual form of education, and 70-78% of them have undifferentiated professional motivation – 52%.

A significant original component of the study was the definition of the proportion of mandatory and supplementary components of the education content for the students of all levels of the initial preparation. Among the students there are common names of educational-pedagogic and athletic activity, which can be generalized by the oppositions of "mandatory – individual", "first – second half of the work day", "highly specialized – general", and other. Because of such dichotomy, a new psychological and pedagogical problem has emerged: the majority of students of sufficient and high levels of the integral characteristics focus either on purely methodical, or on physical aspects.

Methodical and experimental work with students of the intermediate academic years, aimed at perfecting their PP, was conducted from the 3rd year, because the 2nd year, which does not contain pedagogical practical lessons and subjects of the methodical-pedagogical cycle in the study plans, was reserved for professional self-identification, accumulation of general-theoretical knowledge and perfection of physical, psychological and communicative skills.

To summarize, the experiment was developmental and diagnostic simultaneously. In the EG, we conducted and controlled traditional and innovative (approximately 15-25% of the content and methods) education.

The author visited students' propaedeutic practical lessons of the 3rd year and conducted operative survey. Students of the EG, who are included in the first qualitative subgroup, were provided with individual plans that contained 5-35% of variable individual education content, which were approved by the teachers from the Department of Physical Education Methods in accordance with the individual preferences.

3. Results

During the study, the level of PP development was defined by the method of averaged scores on each of the characteristics (motivational and cognitive criteria).

We would like to point out that the initial evaluation was provided by the expert group.

The results of the initial evaluation showed that the majority of the participants have low (elementary) level of PP (approximately 46% of the sample). Therefore, the results of the initial testing showed insufficient level of PP development in the prospective PES specialists, which confirmed the necessity of solving the stated problem by developing PP in PES specialists.

Statistical analysis of the data was conducted with Pearson's χ^2 criterion, according to which it was shown that $\chi^2_{emp} < \chi^2_{crit}$ ($0,512 < 3,84 < 6,63$), where $\chi^2_{crit} = 3,84$ ($\alpha = 0,05$), $\chi^2_{crit} = 6,63$ ($\alpha = 0,01$). This means that the levels of PP development in PES specialists in the studied groups was the same before the actualization of the pedagogical conditions. Based on this, we came to the conclusion that the levels of PP development in PES specialists in the experimental groups were the same.

The conducted initial testing showed:

- Low level of PP development in PES specialists in the process of the professional training in CG and EG, which demonstrates objective need in developing PP in PES specialists in the process of the professional training;
- Similarity between the groups in the distribution of the respondents upon the levels of PP development in PES specialists, which allows considering the initial parameters to be balanced and beginning the performance of the chosen experimental plan.

Pedagogical experiment for PP development in PES specialists was organized in the natural conditions of the educational process in a university during students' education in the normative courses of the professional cycle. In order to characterize the obtained data, we will present the dynamics of the revealed changes of the core characteristics, which were selected with the aim of evaluating PP development in PES specialists – motivation, knowledge and abilities.

Analysis of the results shows that, at the beginning of the stating experiment, as regards the motivational criterion, the majority of students of the EG had elementary level of PP development (45.5%), 32.8% of respondents had reproductive level of development, 11.2%

had productive level, and 10.5% of the respondents had creative level of PP development. It was revealed that, at the beginning of the stating experiment, the same situation was observed in the CG, i.e., 45.5% of the respondents were at the elementary level of PP development, 33% were at the reproductive level, 11.5% were at the productive level, and 10% had creative level of PP development of the PES specialists regarding the motivational criterion. Therefore, at the beginning of the stating experiment, the majority of students in the studied groups was at the elementary and reproductive level of PP development of PES specialists.

At the end of the developmental experiment, as regards the motivational criterion, as much as 27.7% of the students of the EG had creative level of PP development, 31.8% transitioned to the productive level, 27.1% were at the reproductive level of development, and 13.4% had elementary level of PP development. At the end of the development experiment, the EG experienced drastic transition of PSE specialists that had the elementary level of PP development to the reproductive level, and those at the reproductive level moved to a higher level of PP development. Therefore, as regards the motivational criterion, at the end of the developmental experiment, the number of respondents with the elementary level of PP development decreased by 3.4 times, the number of people with reproductive level decreased by 1.2 times, the number of people with productive level increased by 2.8 times, and the number of people with creative level of PP development regarding the motivational criterion increased by 1.2 times.

At the same time, at the end of the developmental experiment, in the CG, 15.2% of the prospective specialists in physical education were at the creative level of PP development regarding the motivational criterion, 25.5% had the productive level, 29.8% - reproductive level, and 33.5% remained at the elementary level of PP development.

Statistical analysis of the data was conducted with Pearson's χ^2 criterion, which showed, at the beginning of the stating experiment, $\chi^2_{emp} < \chi^2_{crit}$ ($0,487 < 3,84 < 6,63$), which means that the levels of PP development in PSE specialists regarding the motivational criterion in the studied groups were equal before the actualization of the pedagogical conditions.

At the end of the developmental stage of the experiment, the results demonstrated that $\chi^2_{emp} > \chi^2_{crit}$ ($41,795 > 3,84$; $41,795 > 6,63$). According to this, it was possible to conclude that the increase of the PP development level of the PSE specialists regarding the motivational criterion was not a random phenomenon during the actualization of the developmental influence.

We will now analyze the changes of the cognitive criterion of the PP development of the PSE specialists during the developmental influence. Analysis of the results demonstrates that, at the beginning of the developmental experiment, almost half of the students in the EG had elementary level of PP development regarding the cognitive criterion (47.3%), 32.1% of the respondents had reproductive level, 10.8% had productive level, and 9.8 of the respondents had creative level of development.

The experiment showed that, at the beginning of the stating stage of the experiment, the same situation was observed in the CG, i.e., 41.4% of the respondents were at the elementary level of PP development, 36.6% were at the reproductive level, 13.1% were at the productive level, and 8.9% had creative level of PP development regarding the cognitive criterion. Therefore, at the beginning of the stating stage of the experiment, the majority of the respondents of the studied groups were at the elementary and reproductive levels of PP development regarding the cognitive criterion.

We will now analyze how the results transformed at the end of the developmental stage of the experiment in the studied groups regarding the cognitive criterion.

Analysis of the results showed that, as regards the cognitive criterion, at the end of the developmental stage of the experiment, 28.5% of the respondents of the EG had creative level of PP development, 32.5% transitioned to the productive level, 24.9% were at the reproductive level of PP development, and 14.1% had elementary level of PP development. At the end of the development experiment, the EG experienced drastic transition of PSE specialists that had the elementary level of PP development to the reproductive level, and

those at the reproductive level moved to a higher level of PP development. Therefore, as regards the cognitive criterion, at the end of the developmental experiment, the number of respondents with the elementary level of PP development decreased by 3.4 times, the number of people with reproductive level decreased by 1.3 times, the number of people with productive level increased by 3 times, and the number of people with creative level of PP development regarding the motivational criterion increased by 2.9 times.

In the CG, at the end of the developmental experiment, 18.4% of the prospective PSE specialists were at the creative level of PP development regarding the cognitive criterion, 20.4% had the productive level, 29.8% - reproductive level, and 31.4% remained at the elementary level of PP development.

At the beginning of the stating experiment, it was revealed that $c_{2emp} < c_{2crit}$ ($1,654 < 3,84 < 6,63$), which means that the levels of PP development in PSE specialists regarding the cognitive criterion in the studied groups were equal before the actualization of the pedagogical conditions.

At the end of the developmental stage of the experiment, the results demonstrated that $c_{2emp} > c_{2crit}$ ($37,068 > 3,84$; $41,795 > 6,63$). According to this, it was possible to conclude that the increase of the PP development level of the PSE specialists regarding the cognitive criterion was not a random phenomenon during the actualization of the developmental influence.

4. Discussion

To summarize, during the experiment, a number of educational subjects of the main and the variable cycle were modified, and it was proved that it was possible to affect the PP development of a prospective PSE specialist only in a certain period of time (2-4th academic years), which was preceded by the initial pedagogical and personality intention, while a PSE specialist continued independent acquisition of the pedagogical experience in the process of professional activity. At the developmental stage, motivational, methodical (instrumental) and general intellectual components of a PSE specialist's personality develop in the conditions of leaning towards highly individualized educational process.

PP development in PSE specialists during their professional training as an integral personality formation can be evaluated based on professional knowledge, abilities, personality qualities and axiological orientations. PP of a PSE specialist is significantly valuable basic characteristic that reflects his achievements and level of development of knowledge and abilities to create interactions with other people in interpersonal interactions and behavior. During this process, positive changes regarding the abovementioned characteristics are interpreted as arguments of efficiency of the developmental effect on the PP development in PSE specialists during professional training.

5. Conclusions

PP development is possible only within personality-oriented education and mentoring in subject-subject interaction of teacher, student and environment. Organization of such education and interaction is conducted only in the presence of high level of self-awareness and motivation in a student – prospective PSE specialist. PP of a prospective PSE specialist is defined as high level of personality development of a teacher, who is capable of solving specific and general pedagogical problems in a creative, fast, original and highly professional manner, by using the acquired competencies, as well as his own experience, intellectual abilities, pedagogical intuition and politeness. PP of a prospective PSE specialist is tightly linked to his involvement in the current social, cultural, political and informational context, in which student is able to organize educational and mentoring process at a high-quality level, demonstrating high cultural development, professional knowledge and physical skills.

The results of the study showed that, during the conduction of the developmental stage of the experiment, experimental group (EG) demonstrated changes in the distribution upon the levels of PP development in general: 28.8% of students of the EG and 17.8% of students of the CG were at the creative level. In the EG, the characteristic of the productive level

increased significantly – 31.8%; in the CG, this characteristic became 21.5%. The validity of the results of the conducted study was confirmed by the statistical methods.

The conducted study does not exhaust all aspects of the problem of PP development in prospective PSE specialists. Promising directions of further scientific studies might be: exploring the international experience of PP development; improving the system of independent work of the prospective PSE specialists, aimed at PP development during the professional training.

References

- Aytzhanova, R.M. & Abdina, G.T. (2014). Pedagogicheskoe masterstvo kak psikhologo-pedagogicheskaya problema. [Pedagogical proficiency as psychological-pedagogical problem]. *Nauka I obrazovanie v sovremennoy konkurentnoy srede*. Materialy Mezhdunarodnoy nauchno-prakticheskoy konferentsii: v 3-kh chastyakh, 132-136.
- Bietenbeck, J. (2014). Teaching practices and cognitive skills. *Labour Economics*, 30, 143-153.
- Khomenko, V.G. (2015). Pedagogicheskoe masterstvo i pedagogicheskie tekhnologii kak sredstvo razvitiya professionalnogo masterstva prepodavatelya vysshey shkoly. [Pedagogical proficiency and pedagogical technologies as a tool of developing professional proficiency of a higher school teacher]. *Pedagogicheskoe masterstvo i pedagogicheskie tekhnologii*, 2(4), 176-178.
- Mirza, N.V. (2008). Professionalnaya kompetentnost pedagoga. [Professional competence of a teacher]. Moscow, Russia: Moskovskiy Parnas.
- Muntaner-Mas, A., Vidal-Conti, J., Sesé, A. & Palou, P. (2017). Teaching skills, students' emotions, perceived control and academic achievement in university students: A SEM approach. *Teaching and Teacher Education*, 67, 1-8.
- Nová, J. (2015). Developing the Entrepreneurial Competencies of Sport Management Students. *Procedia - Social and Behavioral Sciences*, 174, 3916-3924.
- Shotskiy, P.P., Belova, E.D. & Lopatik, T.A. (2015). Pedagogicheskoe masterstvo kak rezultat razvitiya pedagogicheskikh sposobnostey trenera. [Pedagogical proficiency as a result of pedagogical skills development of a coach]. *Sotsialno-psikhologicheskie problem sovremennogo obschestva i chloveka: puti resheniya*. Materialy mezhdunarodnoy nauchno-prakticheskoy konferentsii. Nauchnyi redaktor A.P. Orlova, 122-123.
- Skinner, J., Gilbert, K. (2007). Sport Management Education: Teaching and Learning for the Future. *Sport Management Review*, 10(2), 125-131.
- Yakusheva, S.D. (2011). Osnovy pedagogicheskogo masterstva: uchebnik. [Fundamentals of pedagogical proficiency: Textbook]. Moscow, Russia: Akademiya.

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