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Training of future teachers during teaching internship in the context of modern approaches (Directions of specialization: Physics, mathematics, informatics)

Formación práctica de futuros docentes en el contexto de enfoques modernos (Direcciones de especialización: Física, Matemáticas, Informática)

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ABSTRACT:

The complexity of the system of organization and carrying out of teaching internship for students of pedagogical higher education institutions, caused by a large number of subjects of practice and numerous parameters for assessing the level of training of trainee students, requires scientific justification of the applied approaches. The article presents a "Roadmap for teaching internship", which includes the kinds of activities of all subjects of practice, as well as the tools for the implementation of current and midpoint assessment of the activities of students fulfilling the professional tasks of practice. The results of the pedagogical experiment confirmed the validity of the applied approaches and the developed models, and also pointed out the directions for improving the professional training of students. The system of organizing and carrying out a practice developed on the basis of modern approaches is novel and has a great practical importance. Its implementation will ensure a high level

RESUMEN:

La complejidad del sistema de organización y realización de la pasantía docente para estudiantes de instituciones de educación superior pedagógica, causada por un gran número de temas de práctica y numerosos parámetros para evaluar el nivel de formación de los alumnos en formación, requiere una justificación científica de los enfoques aplicados . El artículo presenta una "Hoja de ruta para la pasantía docente", que incluye los tipos de actividades de todas las asignaturas de práctica, así como las herramientas para la implementación de la evaluación actual y del punto medio de las actividades de los estudiantes que cumplen las tareas profesionales de la práctica. Los resultados del experimento pedagógico confirmaron la validez de los enfoques aplicados y los modelos desarrollados, y también señalaron las instrucciones para mejorar la formación profesional de los estudiantes. El sistema de organizar y llevar a cabo una práctica desarrollada sobre la base de enfoques

of professional training for future teachers. **Keywords:** : competency-based approach, functional-activity approach, model of organizing and carrying out teaching internship, roadmap for teaching internship, continuity in the organization of practice.

modernos es novedoso y tiene una gran importancia práctica. Su implementación garantizará un alto nivel de capacitación profesional para futuros docentes. **Palabras clave**: enfoque basado en competencias, enfoque de la actividad funcional, modelo de organización y realización de pasantías de enseñanza, hoja de ruta para prácticas docentes, continuidad en la organización de la práctica.

1. Introduction

Successful socialization of graduates of secondary educational institutions depends on the professional level of teaching staff. Preserving the best traditions in the professional training of future teachers of secondary general educational institutions, pedagogical higher education institutions need to improve them in accordance with the requirements of a teacher's professional standard (TPS) for labor, the necessary knowledge and skills, and the provisions of the federal program-target document of the Russian Federation "Development of Education for the years 2013-2020". The Federal Law "On Education in the Russian Federation" and federal state educational standards defined the strategic objectives of higher pedagogical education, in particular, one of its components, teaching internship.

Teaching internship, included in the Curriculum for the preparation of Bachelor's (Master's) Degree students of the intramural form of education in pedagogical higher education institutions, is realized in secondary educational organizations. The entire professional activity of a modern teacher is modeled in it. At the same time, practice is a part of learning process and must reflect its specificities. The modern system of training of a future teacher presupposes mastering by students of various kinds of professional activity: pedagogical, methodical, project, cultural-educational and research ones. A graduate of a pedagogical higher education institution should be ready to realize his/her labor functions and perform appropriate labor actions.

Modeling the activity of a future teacher during teaching internship, we must first of all answer the question: what kinds of professional activity should be reflected at this stage of training? By what criteria and by what means a student's readiness for the selected types of professional activity should be assessed?

The formulated questions determined the problem of our research and allowed outlining the ways of solving it.

2. Methods: Theoretical And Empirical

As the approaches to improve the teaching internship of students of a pedagogical higher education institution, the following ones are considered by different authors: a vocational-activity one in the preparation of students (Tulkibaeva, & Medvedev, 2012); a functional-activity one in the evaluation of pedagogical practice (Zemtsova, 2008; Teslenko, & Zaleznaya, 2013; Teslenko, & Latyntsev, 2016); a competency-based one in the training of future teachers (Gnatyshina, 2008; Tryapitsyna *et al.*, 2016).

The problem of organizing and carrying out teaching internship in accordance with the requirements of new normative documents (Federal Law No. 273-FZ, 2012; Federal State Educational Standard of Higher Education on the Specialty 44.03.05 "Pedagogical Education", 2016) and the problems of modernization of both higher and secondary education (Professional Standard, 2013) involve the use of modern approaches. To understand what meaning is put by the researchers into the notion of "modern approach", we will analyze the multifaceted, maximally broad concept of "approach" having the category status. It reflects the connections of phenomena, processes, regularities, and meta-principles; therefore, some approaches have general scientific significance. According to teachers, among such approaches there are the system, synergetic, functional-activity, competency-based ones, etc.

From the point of view of philosophy, the category of "approach" is analyzed as a complex of paradigmatic, syntagmatic and pragmatic structures and mechanisms of cognition (Gritsanov, 2001, p. 794). In the paradigm, ontological schemes of the object description are revealed; in the syntagma, the ways and means of its explanation and understanding; in pragmatics, values, tasks, prescriptions for the use of elements of the syntagma and paradigm.

In pedagogy, an approach is viewed as a special form of cognitive and practical activity, allowing considering pedagogical phenomena from the standpoint of basic values, strategies, and the studied processes. From these positions, the activity, personal, complex, reflexive, and dialogical approaches are distinguished in the literature (Tulkibaeva, & Trubaychuk, 2003).

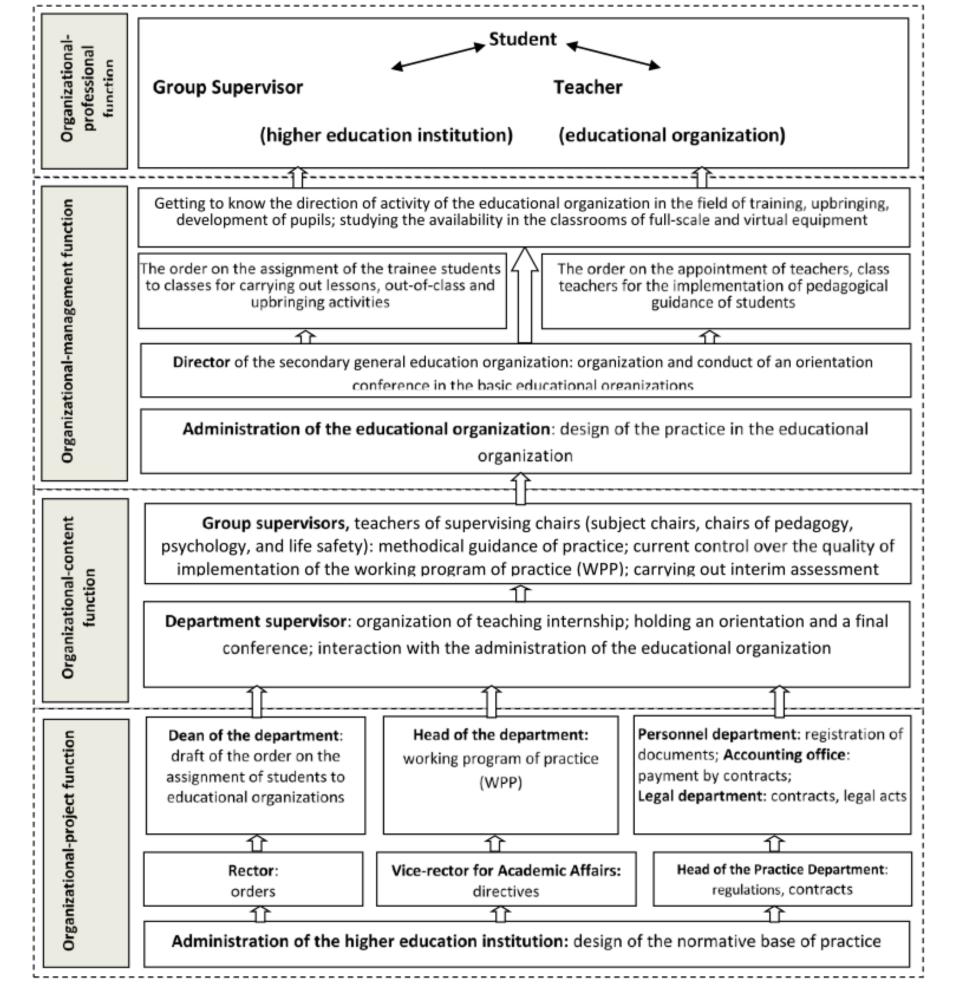
From the standpoint of organizing and conducting the teaching internship, modern approaches should include the competency-based (professional-activity), methodological (personality-activity), and system (functional-activity) ones. All of them are interrelated, because the key word for them is "activity". At the same time, each of the above approaches reveals different aspects of activity (the organizational, cognitive, and communicative ones).

On the basis of the above modern approaches, models for organizing and carrying out teaching internship have been developed. One of these models establishes functional-activity links between the individual stages of the organization of practice (Figure 1).

To organize teaching internship in a pedagogical higher education institution means to arrange it as a system having a certain logical structure, including the object, subject, forms, methods, and means of organization of activity. The results of this activity are aimed at solving professional tasks by trainee students performing certain functions of teacher, which characterize their competence.

The role of modern approaches in the organization and conduct of the teaching internship of students cannot be overemphasized. It has a complex character, because all structural units of both a higher education institution (rector and dean offices, chairs) and a general education organization (administration, teachers, class teachers) take part in it.

Figure 1Model of organization of teaching internship in a pedagogical higher education institution



The theoretical prerequisites for the implementation of the competency-based approach include three components: the social, methodological, and procedural ones. All of them are carried out on the basis of pedagogical conditions. A key word that reveals the set of measures (pedagogical conditions) that realize the above prerequisites is continuity: continuity in the formation of competencies, continuity in the implementation of types of professional activity, continuity in the choice of teaching technology, continuity in the requirements for the work program of practice created by the chairs of the psychological and pedagogical cycle (Potapova, & Selezneva, 2017).

Theoretical methods of analysis of the organization and conduct of teaching internship on the basis of modern approaches have made it possible to develop a "roadmap for teaching internship".

The end result of the joint activity of all organizers and supervisors of practice is the formation of professional competencies/competences in future teachers (Zimnyaya, 2004). In the conditions of a functional-activity approach, the organization and conduct of teaching internship

are carried out as a set (integrity) of pedagogically substantiated, consistent, and continuously alternating activities. In the process of their implementation, the tasks of developing the subject experience of trainees, which is acquired and realized in practice, are solved.

It is not easy to track the effectiveness of actions based on modern approaches (the competency-based, functional-activity, and system ones). During teaching internship, these actions are evaluated by the teachers of several supervising chairs (the subject chairs, the chairs of pedagogy and psychology, life safety and biomedical disciplines), as well as teachers and class teachers who are members of the expert group evaluating the quality of vocational and methodical training of young specialists.

In order to implement the functional-activity approach on the basis of continuity in the evaluation of the formed competencies included in the educational program of practice and approved by the chairs, a "roadmap for teaching internship" has been developed. It includes: the types of activities of trainees, group methodologists from the higher education institution, and the bases of practice; tools for the implementation of current and intermediate assessment of the activity of students fulfilling the professional tasks of practice.

It should be noted that the section "Roadmap for teaching internship", which reveals the content of activities of the trainee students, group and department supervisors from the pedagogical higher education institution, supervisors from the practice bases, is the most important one; therefore, we will briefly describe the structure and content of the stages of professional-methodical supervision of practice as a set of actions of the supervisors, providing solving its main tasks. It includes:

- 1. Types of activity of a trainee student: 1) a study of the normative documents of the practice program; 2) generalization of the experience of a master teacher and a class teacher; 3) testing the trainees in order to analyze their readiness to act as a subject teacher and class teacher; 4) participation in orientation conferences in the pedagogical higher education institution and the practice bases; 5) organization and conduct of training sessions and upbringing activities, 6) self-analysis of the trainees, analysis of professional activities of the same-year students; 7) drawing up an analytical report on the results of practice.
- 2. Types of activity of a group supervisor: 1) carrying out "methodical sessions" with a group of students of the same practice base (analysis of the structure and content of the calendar-thematic plan for the subject in order to select the topic of the educational program for planning and conducting classes); 2) analysis of the structure and content of the syllabus of the lesson to test students' abilities to formulate the goal, tasks of the lesson, ways to solve them; 3) diagnosing the professional achievements of trainees, the results of mastering professional competencies by them in the process of organizing such activities as the pedagogical, project, methodological, and research ones; 4) methodical analysis of lessons, activities, evaluation of their effectiveness, generalization of recommendations for improving the professional training of future teachers.
- 3. Types of activity of a department supervisor: 1) preparation of documentation on the organization of practice; 2) organization and holding of orientation and final conferences; 3) organization of methodical meetings with the group supervisors of practice (pedagogical higher educational institution, practice base); 4) compilation of a comprehensive technological chart for the analysis of lessons and the upbringing activities; 5) summing up the results of the practice (results of the current, interim control, and final assessment); 6) determination of the final coefficient of the formation of professional competence of the student-trainee, its correlation with a 5-point scale; 7) compilation of a general report on the results of the practice on the basis of the analysis of the assessments presented in different scales of assessment.
- 4. Types of activity of practice supervisors from the educational organization (school, college):
 1) the preparation of local acts on the assignment of trainee students to classes; 2) creating conditions for the organization and conduct of educational, upbringing, and research work of the trainees with the pupils in the assigned classes; 3) attendance of classes, upbringing activities, their analysis, generalization of recommendations for improving the professional training of future specialists.
- 5. The tools for assessing the professional achievements of a trainee student on the basis of current, interim control, and final assessment include a set of "Technological charts" for analyzing various aspects of the activity of group methodologists concerning the analysis of

training sessions, upbringing activities, and the quality of the fulfilment of tasks assigned by the chairs supervising the teaching internship.

Let us present an example of the structure and content (fragments) of some "Technological charts" to understand which conceptual ideas were put in during their design. A comprehensive technological chart of the analysis of the professional activities of trainees in the academic subjects, pedagogy, psychology, health-saving technologies is structured in accordance with the professional competencies (PC) designated by the chairs, the formation and evaluation of which continued in practice (Table 1). This chart allows group methodologists to carry out current monitoring in the course of attending the credit lessons and upbringing events.

Table 1The technological map of the analysis of a trainee student's activity at an academic lesson or upbringing event (*a fragment*)

Competencies (FGOS VO, 2016)	Competencies, indicators of evaluation of the professional activity of a trainee student
I. Subject act	tivity
PC-2	1) be able to develop cognitive independence through problem-based training and cognitive activity on the basis of heuristic methods; 2) be able to monitor and evaluate academic achievements
PC-4	1) ability to apply techniques, methods that ensure the achievement of personal, meta-subject and subject outcomes of learning in the classroom (A1); 2) ability to plan and apply techniques and methods that ensure achievement of personal, meta-subject and subject outcomes of learning in the course of extracurricular work (A2); 3) proficiency in the methods for organizing the activity of students in the lesson (P1); 4) proficiency in the methods of organizational and control activity of the teacher, of ensuring the quality of the educational process (P2)
II. Upbringin	g (health-preserving) activity
PC-3	1) ability to formulate the tasks of upbringing and spiritual-moral development in drawing up the synopses of training sessions and upbringing events
PC-7	1) ability to use the factors of the educational environment for the formation of intellectual, cultural and spiritual-moral qualities of personality
III. Psycholo	gical activity
GPC-2	1) proficiency in the specific means of pedagogical support, taking into account the needs, capabilities and psychological characteristics of pupils

In the "Technological Chart of Assessment of a Trainee", on the basis of the current and intermediate control (Table 2), the results of assessment of the activity of trainees are presented in the form of the coefficients of formation of professional competencies. They characterize the ability and willingness to apply knowledge and skills in a specific situation in the process of realization of such kinds of activity as pedagogical, methodical, project, and research ones (Karasova *et al.*, 2016). The following notation is used in the table:

 $\overline{K_1}$, $\overline{K_2}$, $\overline{K_3}$, $\overline{K_4}$ are the coefficients of formation of professional competencies based on the results of evaluating the subject, upbringing, psychological, and health-preserving activities of students in practice.

 $\overline{Z_1}$, $\overline{Z_2}$, $\overline{Z_3}$, $\overline{Z_4}$ are the coefficients of formation of professional competencies based on the results of a comprehensive test (the first stage of interim assessment).

Table 2 Technological Chart of Assessment of a Trainee (a fragment)

	Indicators of the	competency fo	rmation					
N	Disciplines of the chairs	Subject	Pedagogy	Psychology	School Hygiene and Health- Saving Technologies			
	Name of the indicator	$\overline{K_1}/\overline{Z_1}$	$\overline{K_2}/\overline{Z_2}$	$\overline{K_3}/\overline{Z_3}$	$\overline{K_4}$ / $\overline{Z_4}$			
1.	Curre	nt assessment						
	Coefficient of completeness of competency formation based on the results of current control							
2.	First stage o	f interim assessn	nent					
	Coefficient of completeness of competency formation based on the results of interim assessment	$K_{int} = I$	$N^{-1}(\overline{Z_1} -$	$+\overline{Z_2}+\overline{Z_3}$	$+\overline{Z_4}$)			
3.	Second stage	of interim assess	sment					
	Coefficient of completeness of competency formation based on the results of final assessment	$\overline{K}_{integr} =$	0.64 · K	_{curr} + 0.3	$36 \cdot \overline{K}_{int}$			

Let us give an example of another "Technological chart", which is important in summing up the results, because it takes into account the opinions of students, teachers, and methodologists (Table 3).

Table 3Technological chart of the expert assessment of the formation of professional competencies for a trainee student

No.	Competencies Respondents	PC-2 (Subject)	PC-3 (Pedagogy)	OPC-2 (Psychology) (School Hygiene and Health- Saving Technologies)		
1	Student (self-assessment)		Indicators expr	essed in points		
2	Group methodologist					
3	Teacher, class teacher					

The expert assessment of the formation of professional competencies for a trainee-student is carried out by the teachers of the subject chairs, the chairs of pedagogy, psychology, life safety and biomedical disciplines (LS&BD) of the pedagogical higher education institution, as well as the administration and teachers of the practice bases (Table 3). The presence of a connection between the results of assessment conducted by different respondents was revealed by the method of correlation analysis (Shapovalov, 2013). Such an analysis makes it possible to establish whether the identified indicators of the formation of professional competencies of trainees are reasonable and objective.

3. Results

Table 4 shows the results of assessing the formation of students' professional competency PC-4 "The ability to use the possibilities of the educational environment to achieve personal, metasubject and subject outcomes of training and ensure the quality of the teaching-upbringing process by means of the taught subjects". In the first four rows of the table, there are presented the average values of the rating points for the credit lessons, which the methodologists put into the technological charts of the analysis of the trainee student's activity, in accordance with the indicators of the formation of this competency indicated in Table 1.

The 5th row of the table reflects the self-assessment of the formation of PC-4 by the students themselves. The 6th row shows the assessment of the teacher from the practice base. The 7th row contains an integral assessment of the formation of PC-4 based on the results of analysis of the credit lessons by the methodologist.

Correlation analysis is performed in MS Excel and is presented in Table 5.

Table 4Results of assessing the formation of students' professional competency PC-4

N	Indicator/Type of assessment	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	A1	2.67	2.67	4.00	4.00	4.00	3.00	3.33	3.00	3.00	3.67	4.00	4.00	4.00	1.67	3.67
2	P1	2.67	2.67	3.67	3.67	3.67	3.33	3.00	4.00	3.67	3.67	3.67	3.67	3.00	3.00	3.33
3	A2	2.00	1.00	2.00	2.00	2.00	2.00	2.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
4	P2	3.00	2.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
5	Self- assessment based on the results of practice	0.65	0.80	0.90	1.00	0.88	1.00	0.65	1.00	0.75	1.00	0.90	1.00	0.85	0.88	0.98
6	Assessment by the subject teacher	0.90	0.40	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	0.90	1.00	1.00	0.60	0.90
7	Assessment by the supervisor from the higher education institution	0.74	0.60	0.98	0.98	0.98	0.88	0.81	0.79	0.83	0.88	0.90	0.90	0.86	0.69	0.86

Table 5Results of the correlation analysis of expert assessments of the formation of the professional competency PC-4 for trainee students

	U1	V1	U2	V2	Self- assessment based on the results of practice	Assessment by the subject teacher	Assessment by the supervisor from the higher education
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							institution
A1	1						
P1	0.51	1					
A2	0.32	0.04	1				
P2	0.40	0.47	0.51	1			
Self-assessment based on the results of practice	0.34	0.65	-0.06	0.34	1		
Assessment by the subject teacher	0.56	0.68	0.36	0.60	0.51	1	
Assessment by the supervisor from the higher education institution	0.82	0.69	0.58	0.80	0.45	0.75	1

The correlation analysis showed the following results:

- 1. The self-assessment of the formation of PC-4 based on the results of the practice has the strongest (significant) connection with the assessment by the group methodologist who, during the lesson, tracks such indicator as "proficiency in the methods of organizing the activities of pupils in the lesson" (the correlation coefficient is 0.65).
- 2. The assessment of the formation of PC-4 by the subject teacher has a strong connection with the assessment by the group methodologist (the correlation coefficient is 0.75).
- 3. The assessment of such indicator as "the ability to plan and apply techniques and methods that ensure the achievement of personal, meta-subject and subject outcomes of learning in the process of organizing and conducting extracurricular activities" by the class teacher and the subject teacher has turned out to be weakly connected with the self-assessment of the trainee student (the correlation coefficient was -0.06).
- 4. The integral assessment by the group methodologist of the formation level of PC-4 based on the results of analysis of the credit lessons has the strongest correlation (the correlation coefficient was 0.8) with the assessment with respect to the indicators: "the ability to apply techniques and methods that ensure the achievement of personal, meta-subject and subject outcomes of learning"; "proficiency in the methods of organizational and managerial activity of the teacher to ensure the quality of the educational-upbringing process".

A specificity of summarizing the results of teaching internship is the presence of two stages of interim assessment of students. The first stage is connected with the generalization of the results of the current monitoring in the process of analyzing lessons, upbringing and subject events, the fulfillment of assignments in psychology, pedagogy, and school hygiene in practice, which is organized and conducted at secondary general education organizations. According to its results, one calculates the coefficient of success in mastering professional skills (actions), ways of their mastering (indicators of the competence formation).

The second stage is carried out in the form of a comprehensive test, which is offered to students at the end of practice at the final conference to summarize the practice. All group supervisors take part in drawing up the control test; therefore, it includes four professional assignments (on the method of teaching the discipline, organizing the upbringing work with the pupils of the class, performing tasks in psychology, school hygiene). Based on the results of the test control task, the success rate is calculated of mastering the skills in resolving problem situations of a professional nature.

Based on the results of two stages of interim assessment, the integral coefficient of the formation of professional competencies is calculated. The results of two stages of interim assessment of trainee students are presented in Table 6.

	Evaluated		Students													
No.	competencies by the type of activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Inter	nterim assessment. Stage 1															
1	Subject 1. PC-2. PC-4. PC-10	0.79	0.58	0.93	0.98	0.91	0.87	0.75	0.71	0.79	0.90	0.91	0.95	0.79	0.75	0.85
2	Subject 2. PC-2	0.94	0.88	0.96	0.98	0.89	0.90	0.93	0.69	0.69	1.00	1.00	0.97	1.00	0.94	1.00
3	Pedagogy. GPC-5. PC-3. PC-7	0.90	0.90	0.95	0.93	0.93	0.95	1.00	0.90	0.90	0.90	0.90	0.98	0.85	0.98	0.90
4	Psychology. GPC-2. PC-2	1.00	0.90	1.00	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00	1.00	0.96	0.98
Inter	im assessmen	t. Stag	je 2													
5	Subject 1. PC-4	0.33	0.33	0.89	0.89	0.89	0.78	0.78	0.83	0.61	0.83	0.78	0.78	0.89	0.89	0.83
6	Subject 2. PC-2	0.14	0.14	0.86	0.64	1.00	0.57	0.43	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
7	Pedagogy. PC-3	0.40	0.50	1.00	0.90	0.90	0.70	0.90	0.80	0.70	1.00	0.80	1.00	0.80	1.00	0.90
8	Psychology. GPC-2	0.67	0.83	0.83	0.83	0.83	0.83	0.50	0.67	0.67	0.83	0.67	1.00	0.67	1.00	0.67
9	Integral coeff. of the competency formation	0.74	0.71	0.95	0.93	0.94	0.88	0.84	0.84	0.82	0.95	0.92	0.97	0.91	0.94	0.90

Correlation analysis between the sets of values of coefficients reflecting the formation of a group of competencies (Table 7) yielded the following results:

- 1. The results of carrying out the tasks of the comprehensive test by the trainee student, related to his/her methodological activity on Subject 1, revealed a significant connection with the results of the current monitoring (the correlation coefficient was 0.58).
- 2. The results of carrying out the tasks of the comprehensive test by the trainee student, related to his/her methodological activity on Subject 2, were practically unrelated to the results of the current monitoring, as was shown by the correlation coefficient of -0.02.
- 3. The results of fulfilment of the tasks of the comprehensive test on pedagogy had moderate connection with the results of the current monitoring. The correlation coefficient in this test was 0.43.
- 4. The results of fulfilment of the tasks on psychology of the comprehensive test had moderate connection with the results of the current monitoring, the correlation coefficient was 0.47.

	Subject 1 (Stage 1)	Subject 2 (Stage 1)	Pedagogy (Stage 1)	Psychology (Stage 1)	Subject 1 (Stage 2)	Subject 2 (Stage 2)	Pedagogy (Stage 2)	Psychology (Stage 2)	Integr. coeff. of the comp. form.
Subject 1									
(Stage 1)	1.00								
Subject 2									
(Stage 1)	0.48	1.00							
Pedagogy (Stage 1)	0.15	0.09	1.00						
Psychology (Stage 1)	0.67	0.78	-0.11	1.00					
Subject 1									
(Stage 2)	0.58	0.25	0.22	0.25	1.00				
Subject 2 (Stage 2)	0.45	-0.02	-0.11	0.13	0.76	1.00			
Pedagogy (Stage 2)	0.56	0.32	0.43	0.19	0.88	0.72	1.00		
Psychology (Stage 2)	0.27	0.20	0.30	0.47	0.17	0.20	0.34	1.00	
Integr. coeff. of the comp. form.	0.79	0.45	0.25	0.53	0.89	0.77	0.90	0.44	1.00

The values of the integral coefficient of the competency formation are presented in the row 9 of Table 6. It follows from Table 7 that, firstly, the integral coefficient has the strongest connection with the assessment on Subject 1 (the correlation coefficient is 0.79); secondly, it has strong correlation with the results of fulfilment of control tests for almost all types of activity (the correlation coefficients are generally higher than 0.7).

4. Discussion

Summarizing the results of the correlation analysis, it can be stated that the indicators chosen for analyzing a trainee student's activity allow objectively estimating the level of formation of professional competencies for trainee students. It should be noted that the supervisors from both the university and the practice bases interpret the indicators of the level of the competence formation in the same way, which is important from the point of view of objectivity of assessment.

In addition, the result of the correlation analysis points to the need to increase attention to the formation in students of the skills to plan and apply in practice the methods and ways of training that ensure achievement of personal, meta-subject and subject results. A weak correlation between the estimates of this indicator by different respondents, first of all, testifies to the fact that the concepts of personal and meta-subject outcomes of training are new and not well-established in education. They are treated differently in a higher education institution and by practical teachers; they are still poorly understood by students. For more successful

formation of the listed skills, it is necessary to continue developing the methods for teaching various disciplines to students at a higher education institution, aimed at students' mastering the ways of realizing the modern requirements for the educational process at school.

The interpretation of the correlation coefficients in the analysis of the results of the interim assessment of trainee students shows that the comprehensive test significantly affects a trainee student's final score. However, the content of the comprehensive test does not sufficiently reflect the practical component of students' training. For example, consider the scores received by students for the fulfillment of assignments in the field of upbringing activity. They are not related to the level of professional training of the trainee student, which he/she demonstrated in the course of practice. The results of the correlation analysis point to the need for deeper understanding of the content of the comprehensive test, as well as its significance for the assessment of trainee students.

5. Conclusion

The results of students' teaching internship, first and foremost, are demonstrated by the values of the coefficients of formation of their professional competencies. High values of coefficients indicate the success of solving the problem of selecting the types and methods of professional activity included in the content of teaching internship.

The results of the correlation analysis testify to the appropriateness of the identified indicators of the formation of the professional competencies of students; to the coordinated work of higher education teachers, supervising the practice of students, and teachers of the practice bases. At the same time, the correlation analysis made it possible to outline the direction of further improvement of the methodology of higher education teaching and the preparation of future teachers.

The application of modern approaches to organizing, conducting and summarizing the results of teaching internship makes it possible to realize the continuity and coordination of the activity of teachers of various disciplines during students' teaching internship and to generalize its results with a sufficient degree of objectivity.

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References

Federalnyi gosudarstvennyi obrazovatelnyi standart vysshego obrazovaniya po spetsialnosti 44.03.05 Pedagogicheskoe obrazovanie (s dvumya profilyami podgotovki) (uroven bakalavriata) [Federal State Educational Standard of Higher Education on the Specialty 44.03.05 "Pedagogical Education" (with Two Profiles of Preparation) (Bachelor's Degree Level)]. (2016, February 9). Approved by the Order of the Ministry of Education and Science of the Russian Federation No. 91.

Federalnyi zakon ot 29.12.2012 No. 273-FZ (red. ot 13.07.2015) "Ob obrazovanii v Rossiiskoi Federatsii" [Federal Law No. 273-FZ (as amended on July 13, 2015) "On Education in the Russian Federation"]. (2012, December 29).

- Gnatyshina, E.A. (2008). Kompetentnostno orientirovannaya podgotovka pedagogov professionalnogo obucheniya v usloviyakh regionalizatsii obrazovaniya: monografiya [Competence-Oriented Training of Teachers of Vocational Training in the Conditions of Regionalization of Education: Monograph]. Ekaterinburg: Russian State Professional-Pedagogical University. (p. 272).
- Gritsanov, A.A. (Ed.). (2001). *Vsemirnaya entsiklopediya: Filosofiya* [World Encyclopedia: Philosophy]. Moscow: AST; Minsk: Harvest, Sovremennyi Literator. (p. 1312).
- Karasova, I.S., Leonova, E.A., & Selezneva, E.A. (2016). Kontseptualnye polozheniya kompetentnostnogo podkhoda v organizatsii i provedenii proizvodstvennoi (pedagogicheskoi) praktiki v bakalavriate [Conceptual Elements of the Competency Approach in the Organization and Conduct of the On-The-Job (Pedagogical) Practice in the Bachelor's Degree Program]. In *Tretii Mezhdunarodnyi kongress "Nepreryvnoe pedagogicheskoe obrazovanie: globalnye i natsionalnye aspekty"* [The Third International Congress "Continuing Pedagogical Education: Global and National Aspects"] (pp. 156-164). Chelyabinsk: YuUrGGPU.
- Potapova, M.V., & Selezneva, E.A. (2017). Preemstvennost v formirovanii kompetentsii na proizvodstvennoi praktike v pedvuze [Continuity in the Formation of Competencies during Teaching Internship in the Pedagogical Higher Education Institution]. In *Fizika v sisteme sovremennogo obrazovaniya (FSSO–2017): materialy XIV Mezhdunar. nauch. konf. (s. Divnomorskoe, 17-22 sentyabrya 2017 g.)* [Physics in the System of Modern Education (FSSO-2017): Proceedings of XIV International Sci. Conf. (Village Divnomorskoe, September 17-22, 2017)] (pp. 245-247). Rostov-on-Don: The Don State Technical University.
- Professionalnyi standart. Pedagog (pedagogicheskaya deyatelnost v doshkolnom, nachalnom obshchem, osnovnom obshchem, srednem obshchem obrazovanii) (vospitatel, uchitel). Prikaz Ministerstva truda i sotsialnoi zashchity Rossiiskoi Federatsii ot 18 oktyabrya 2013 goda No. 30550 [Professional Standard. Teacher (Pedagogical Activity in the Preschool, Primary General, Basic General, and Secondary General Education) (Preschool Teacher, Teacher). Order of the Ministry of Labor and Social Protection of the Russian Federation of October 18, 2013 No. 30550]. (2014). Psikhologicheskaya nauka i obrazovanie: Modernizatsiya pedagogicheskogo obrazovaniya, 19(3), 11-31.
- Shapovalov, A.A. (2013). *Elementarnye tekhnologii obrabotki rezultatov pedagogicheskikh izmerenii: uchebnoe posobie* [Elementary Technologies for Processing the Results of Pedagogical Measurements: Study Guide]. Barnaul: AltGPA. (p. 131).
- Teslenko, V.I., & Latyntsev, S.V. (2016). *Kommunikativnaya kompetentnost v kontekste produktivnogo vzaimodeistviya* [Communicative Competence in the Context of Productive Interaction]. Krasnoyarsk: KSPU Publishing House. (p. 252).
- Teslenko, V.I., & Zaleznaya, T.A. (2013). *Professionalnoe stanovlenie budushchego uchitelya po predmetam estestvennonauchnogo tsikla (bakalavra, magistra): monografiya* [Professional Formation of the Future Teacher in the Subjects of the Natural-Science Cycle (Bachelor, Master): Monograph]. Krasnoyarsk: KSPU Publishing House. (p. 348).
- Tryapitsyna, A.P., Pisareva, S.A. et al. (2016). *Razvitie kompetentnosti budushchego pedagoga v obrazovatelnom protsesse sovremennogo vuza: praktikoorientirovannaya monografiya* [Development of the Competence of the Future Teacher in the Educational Process of the Modern Higher Education Institution: A Practice-Oriented Monograph]. St. Petersburg: Publishing House of the A.I. Herzen Russian State Pedagogical University. (p. 207).
- Tulkibaeva, N. N., & Medvedev, I.F. (2012). *Rukovodstvo samoobrazovaniem studentov:* monografiya [A Guide to Self-Education of Students: Monograph]. St. Petersburg: Asterion. (p. 359).
- Tulkibaeva, N.N., & Trubaychuk, L.V. (Eds.). (2003). *Pedagogicheskaya entsiklopediya:* aktualnye ponyatiya sovremennoi pedagogiki [Pedagogical Encyclopedia: Topical Concepts of Modern Pedagogy]. Moscow: Vostok. (p. 274).
- Zemtsova, V.I. (2008). *Upravlenie uchebno-professionalnoi deyatelnostyu studentov na osnove funktsionalno-deyatelnostnogo podkhoda: monografiya* [Management of Educational-Professional Activity of Students on the Basis of the Functional-Activity Approach: Monograph]. Moscow: Sputnik +. (p. 208).
- Zimnyaya, I.A. (2004). Klyuchevye kompetentnosti kak rezultativno-tselevaya osnova

kompetentnostnogo podkhoda v obrazovanii [Key Competences as a Result-Target Basis of the Competency Approach in Education]. Moscow: Issledovatelskii tsentr problem kachestva podgotovki spetsialistov. (p. 42).

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