Receptions of organizing a competency-oriented lesson with students of pedagogical directions of training

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Abstract. The relevance of this study is determined by the problem of the orientation of higher education on the formation of competences as a set of learning outcomes, which implies the creation of pedagogical conditions, where the student can show himself as an intellectual, actively learning personality, able to express his social position and individuality. The purpose of the research: to describe the methods of organizing competency-oriented classes with students of pedagogical areas of training. The leading methods of research were the generalization and analysis of pedagogical experience and the processing of quantitative data on the dynamics of indicators of the effectiveness of using methods of organizing competency-oriented classes with students of pedagogical areas of training. Results of the study: the advantages of using competency-oriented classes with students of pedagogical areas of training are highlighted; types of competency-oriented classes with students of pedagogical areas of training; the receptions of the organization of lecture, seminar and practical competency-oriented classes were singled out; the interactive methods promoting the formation of the components of the professional competence of the students of pedagogical areas of training in competency-oriented classes; the types of activity for inclusion in the rating indicators. Importance of the research: the materials of the article can be useful for heads of educational structures at various levels, teachers of higher educational institutions, teachers of schools, gymnasiums, lyceums, parents.

1 Introduction

The modern concept of the higher education system in Russia is related to the implementation of a competence approach that is oriented towards the development of the personality qualities of an individual capable of self-improvement and self-development in the process of productive innovation activity. The society needs specialists ready for a multifaceted professional and socio-cultural activity, cooperation, creative self-development and self-realization, independent decision-making in a choice situation, with competitive qualities and professional mobility, as noted in such regulatory and legislative

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documents as the Law "On Education in the Russian Federation", the "Concept of long-term social and economic development of the Russian Federation for the period up to 2020", the "Concept of development of research and innovation", the National Educational Initiative "Our New School", the Federal State Educational Standard.

All of the above indicates the need for the formation of professional competencies of university students, including pedagogical areas of training.

Various aspects of the problem of essence, features, structure of professional competences are considered in the works of N.N. Dilychanskaya, E.F. Zera, I.A. Winter, M.D. Ilyazova, E.A. Kagakina, M.V. Krupina, O.E. Kurlygina, A.K. Markova, L.M. Mitina, Yu.G. Tatura, Yu.V. Frolova, A.V. Khutorskogo and others.

Orientation of higher education in the formation of competences as a set of learning outcomes (knowledge, skills, experience) requires the creation of pedagogical conditions, where the student can show himself as an intellectual, actively learning the personality, able to express his social position and individuality. The problems of forming competences in Europe are devoted to the works of Gordon J. [8], Halasz G. [8], Hutmacher W. [7], M. Krawczyk [8], Leney T. [8] and others.

Analysis of the results of these studies indicates different approaches to the interpretation of the concepts «professional competence» and «professional competence», defined as the ability, property, quality, willingness and aspiration, characterization of the personality that can be used both synonymously and in different contexts.

2 Research Questions

Consider the existing structures of professional competence in pedagogical theory and practice. M.D. Ilyazova justified the following invariant structure of any competence [2]: (a) value-semantic basis of professional activity (responsibility for its results); (b) motivational basis of activity (needs, motives, orientation); (c) individual psychological basis (ability to work); (d) instrumental basis (knowledge, skills, skills, work experience); (e) the conative basis (the mechanism for implementing the competence of a specialist in the process of self-regulation of activities).

E.A.Kagakina, T.A. Chekalina, in accordance with the aspects of the synergetic approach associated with the recognition of the ability of systems to self-development, not only through external energy-information flow, but also through the realization of internal potential, distinguish the following components in the structure of professional competence [3]: (a) cognitive; (b) operational; (c) motivational.

N. N. Dvilichanskaya, in the structure of competence, distinguishes the motivational-value or axiological (value attitude to acquired knowledge in social and professional aspects, the motives that motivate the activity), cognitive (subject, interdisciplinary knowledge, knowledge of the methods of obtaining and applying them in practice) and activity (skills apply knowledge to specific situations, including professional and problematic) components [1].

In the integral structure of the competence of the personality of a professional specialist, Yu. G. Tatar distinguished cognitive, motivational-value, operational-activity, and socio-psychological components [6].

Professional competencies, most often, represent a willingness (and / or ability) to organize the process of education and / or upbringing, research activity, the ability to analyze and introspect, professional development, etc. Naturally, one cannot talk about readiness for the implementation of pedagogical and / or research activity (i. E. competence) without mastering a complex of knowledge and skills. But there are also few traditional university courses. Let's consider variants of their "transformation" into competence-oriented ones.

At the lecture sessions in this regard, the techniques of critical thinking development technology, which was developed for the school in the late 20th century by foreign scientists, could work well. Currently, there are publications of its use in vocational education. With the help of ZCU (I Know - I Want to Know - I Learned), on the basis of the analysis of the stated topic, students at the beginning of the couple write down (and then voice) the answers to the questions. What do I know? What would I like to know, what I want to learn, what's interesting? At the end of the pair (or at the end of the stage) we answer the question: what did we learn, what did we learn? What else remains to learn or do? From the answers to the last questions, either the goal is set at the next stage of the lecture, or the homework. To maintain the activity and interest of students, the lecturer can use techniques of problematic presentation and partially-search method.

Seminar classes are arranged so that the student-lecturers not only represented the material, but also mastered the use of the above-mentioned techniques. In addition to the traditional additions to the answer and questions to the "speaker," you can use the reception of a two-part diary (the reception can be used both for listening to a report, for a speech, for a lecture, or for studying a material yourself, for example, according to a textbook or primary source). During the course of a report or reading a text, a student writes out a part of it, a voiced thought that made an impression on him. Nearby gives a comment.

On a practical lesson (in addition to the above), you can use the techniques "Brainstorming", "Basket of ideas." The stages for these receptions can be the following: pondering the task (individual work 3-5 minutes); discussion in pairs or groups (3-5 minutes); sounding of ideas (each group calls one of its ideas, not repeating the previously voiced); analysis of ideas, correction of mistakes. Reception works well for finding a solution to a difficult problem, solving a problem. Obviously, these named stages can be reduced. For methodical disciplines it is expedient to use business and role games. Students do not just tell how to organize, for example, a lesson, but lose it in a group (which takes on the role of students).

To comprehend, generalize and systematize the material studied, one can use the compilation of analytical schemes, multidimensional schemes, clusters. The reception works well for both the material heard and recorded at the lecture (as a homework assignment, students are invited to draw a diagram or a cluster on a lecture) and for the student himself. It will help to comprehend and memorize the material as a lecture, and independently studied the preparation of the home for a certain set of questions. In the literature this technique is sometimes called "Romashka Bluma". Groups of questions are clearly spoken out. It can be: simple questions, clarifying, questions-interpretations, practical, creative and evaluation questions, etc. With the aim of developing the motivation and creative abilities of students, you can use at the end of the lesson, the themes of making syncwein (translated from French means a poem of five lines).

The planning of a competence lesson is not possible without including a control phase in it, aimed at monitoring the formation of elements that are part of the competences. In classes (both classroom and extracurricular), students need to be more active and motivated. A good tool for activating and motivating is the competent use of the rating evaluation of learning outcomes.

4 Purpose of the Study

Describe the methods of organizing competency-oriented classes with students of pedagogical areas of training.

5 Research Methods

As methods of research were:

1) generalization and analysis of pedagogical experience described in the psychological-pedagogical and methodical literature;

2) the processing of quantitative data on the dynamics of indicators of the effectiveness of using methods of organizing competency-oriented classes with students of pedagogical areas of training.

In the pilot work conducted on the basis of the SGPI of the PGNUU branch in 2016-2017, students enrolled in bachelor's programs took part. Pedagogical education (direction (profile): Mathematics, Mathematics and Economics). The total number of students is 28 people. Quantitative results are presented in Table. 1.

Table 1. Dynamics of performance indicators using the methods of competency-oriented classes.

Index	2016	2017
The share of students participating in scientific and methodical competitions held on the basis of the SSPI of the branch of PGNU	35,7%	64,3%
The share of students participating in scientific and methodological competitions held outside the university of the SSPI of the branch of PGNU	14,3%	25%
The share of students participating in scientific and practical conferences	42,9%	71,4%
Percentage of graduate students with publications	72%	100%
Number of diplomas and certificates received by students	10 шт.	18 шт.
The proportion of students performing additional (optional) individual assignments on methodological subjects	10,7%	42,8%

6 Findings

The advantages of using competency-oriented classes with students of pedagogical areas of training are singled out:

- the formation of competencies, personal qualities that allow you to effectively operate in different life situations;
- involvement in active independent cognitive activity;
- the use of a variety of activities;
- the possibility of students understanding ways of applying knowledge.

Types of competency-oriented classes with students of pedagogical areas of training are singled out:

- classes focused on the application of knowledge in a standard situation with awareness of the ways knowledge is used;
- classes focused on the application of knowledge in an unconventional situation with an awareness of the ways knowledge is used.

Proceeding from the tasks and peculiarities of methodical disciplines in the preparation of students-teachers, the following types of activities (work) for inclusion in the rating indicators were singled out.

1. Presentations at seminar sessions with reports, reports, essays, review of presentations (written works) of other students, participation in discussions, discussions, etc.

2. Designing, presentation and / or protection of methodological support for lessons and after-school work with schoolchildren (summaries of lessons, extracurricular activities, comparative analysis of school textbooks, elective courses programs, elective courses,

cultural and educational programs, etc.). The described work is carried out within the framework of classroom (practical and laboratory) and extracurricular (as a means of verifying the results of independent work of students). The types of work are distributed between the methodological disciplines of the basic and variable parts. Students of senior courses traditionally participate in the annual competition of methodological developments, held in the SSPI branch of PGNIU.

3. Conducting research work on the material of methodical disciplines. Obligatory for all students are the preparation and protection of the essay on the material of the methodology (the second course of study), the preparation and protection of the course work (3 courses), participation in the scientific and practical conference with the results of the final qualifying work (graduate course).

4. Self-analysis and a mutual evaluation of the formation of professional competencies assigned to discipline (conducted at the beginning and end of the study of the discipline or semester). Students should be included in evaluation activities. At the same time, we guide students to avoid poorly based estimates and judgments. So when assessing the ownership of competences, the task is to name the types of work, activities that the student demonstrates, to bring confirmation.

5. The rating necessarily includes the opportunity to get additional (not mandatory) points for individual work. The student himself decides whether he will do these jobs. Here students can prepare articles, take part in scientific and practical conferences, competitions. It is this indicator that indicates the student's interest and activity. The results of this work also supplement the student's portfolio.

When planning the types of work for the rating, it is reasonable to assume that the students of the senior courses are given a lot of freedom. The student has the opportunity to perform assignments in the framework and on the material of the course work, final qualification work, industrial practice. For example, a fairly wide range of works can be submitted to the contest of methodological developments: a synopsis, an elective course program, a training program, a set of visibility, etc.

Indicators for assessing the effectiveness of the described methods of work are singled out:

1. The proportion of students participating in scientific and methodical competitions held at the university and outside the university.
2. The share of students participating in scientific and practical conferences.
3. The proportion of graduate students with publications.
4. Number of diplomas and certificates received by students.
5. The proportion of students performing additional (optional) individual assignments for methodological disciplines.

7 Conclusion

The described techniques and types of work are implemented in the SGPI branch of PGNIU in the classroom on the methodology of teaching mathematics and methodological courses of choice. Students for 2 years gradually master the types of activities that are part of professional competencies. As a result, all students have publications on the methodology of teaching mathematics, diplomas and certificates of participants in various competitions and conferences to complete the undergraduate program. The use of the described techniques increases the activity, the number of students performing additional (optional) individual scientific and methodical work increases.

References

1. N. N. Dvilichanskaya, *Didactic system of formation of professional competence of students of establishments of average vocational training in the course of natural-scientific training: the author's abstract* (MSTU, Moscow, 2011)
2. M. D. Ilyazova, Bulletin of the Moscow State University for the Humanities - Pedagogy and psychology, **1** (2011)
3. E. A. Kagakina, T. A Chekalina, World of Science, Culture, Education, **4**, 29 (2011)
4. A.V. Pashkevich, *Competent-oriented lesson* (Uchitel, Volgograd, 2014)
5. Solikamsk State Pedagogical Institute, *Implementation of the competence approach in the process of teaching mathematics* (SSPI, Solikamsk, 2014)
6. Yu. G. Tatur, *Competence approach in describing results and designing standards for higher professional education: Materials for the second meeting of the methodological seminar* (Research Center for Quality Problems in Training Specialists, Moscow, 2004)
7. W. Hutmacher, *Report of the symposium in Berne, Switzerland of 1996* (CDCC, Strasburg, 1997.
8. J. Gordon, G. Halasz, M. Krawczyk, T. Leney, *Key competences in Europe: opening doors for lifelong learners* (Center for Social and Economic Research, Warsaw, 2009).