

SCTMG 2023
International Scientific Conference «Social and Cultural Transformations in the Context of
Modern Globalism»

MENTORING IN THE IMPLEMENTATION OF PROFESSIONAL
TESTS FOR PEDAGOGICAL UNIVERSITY STUDENTS

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Abstract

The article presents a generalised analysis of the results of scientific research in the context of the phenomenon of mentoring. Mentoring as one of the most important human resource tools of education in the Year of the Teacher and Mentor, which is taking place in Russia, acquires a new meaning. It emphasises that an authoritative teacher-mentor, who possesses supraprofessional skills, practical experience and successes in work, is an important figure in the professional development of future teachers. The article substantiates the professional trial from the position of professional test, which models elements of real pedagogical activity. The forms of implementation of student mentoring in the pedagogical university are considered. The present article is based on the materials of the sociological research (N = 277 people), conducted in February-March 2023 on the basis of FSBEI VO "Orenburg State Pedagogical University" using the Internet platform Yandex Disk. The author's questionnaire was grouped into three blocks of questions: factors that influenced the need to undergo professional training at the sites of basic schools; factors that indicate the need for mentoring students in the process of professional trials; criteria for choosing a particular secondary school for immersion in the profession. The problem field of the study implied a step-by-step analysis of the experimental data. The analysis of students' opinions showed that they need pedagogical mentoring in the process of learning and gradual immersion into the profession.

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Keywords: Basic school, mentoring, pedagogical practice, professional probation, student of pedagogical university, support

1. Introduction

The Year of the Teacher and Mentor witnesses the transformation of the broad social context of comprehension of human potential (as a set of special skills and competences) in the implementation of the Russia's socio-economic development strategy. In the conditions of high rates of change in the sphere of education, future teaching staff should meet the requirements of employers who want to receive a university graduate capable of providing high quality professional activity. In this regard, specific requirements for the knowledge, skills, and abilities that a modern university graduate should possess are formed. The state order of Russian education actualises the problem of training highly qualified teaching staff with formed competences, possessing meta-subject vision, engaged in research work and flexibly functioning in the professional environment of general education schools. These requirements are presented in the form of labour functions in the professional standard "Teacher" and in the Federal State Educational Standard of Higher Education in the form of professional tasks that a graduate of a pedagogical university should be able to solve. Fulfilment of the above requirements is impossible without fundamental theoretical knowledge and possession of ways of independent behaviour in the real space of the school.

According to the Methodology of the Ministry of Education of the Russian Federation, the role of mentoring as a social institution is to "improve the performance of organisations carrying out activities in general education, additional general education programmes and educational programmes of higher education in educational, socio-cultural, sports and other spheres" (Methodology (target model) of mentoring, 2019, p. 25).

In the process of mastering the educational programme, immersion in future professional activity at the sites of basic schools and passing the industrial pedagogical practice, students' orientations for employment are being formed. They include ideas about the content of the profession, the requirements of the employer, their own needs related to working conditions, the size of remuneration, the prospects of professional and career development. The most important task of teachers is to ensure that students' orientations to the forthcoming pedagogical activity correspond to the requirements of modern education. It is characterised by a high degree of innovation of content, technical equipment of schools, use of various forms, methods, means and technologies of educational process organisation, transition to research and project activities.

The analysis of scientific works allows us to state that there are no special studies devoted to the problem of mentoring students of pedagogical university in the process of implementation of professional trials at the sites of basic schools. The theoretical and methodological basis of the chosen research direction is also found to be underdeveloped (Kochemasova, 2021).

2. Problem Statement

In foreign science studies, mentorship is defined as "an activity in which experts in science, technology, engineering, mathematics, and medicine promote the development of the next generation of STEMM professionals" (Byars-Winston & Dahlberg, 2019, p. 25).

J. Aspfors and G. Fransson, analysing the international experience of introducing and implementing mentoring programmes, point out that the requirements for a mentor include deep professional knowledge, skills and abilities based on personal and professional experience. Researchers conclude that mentoring is learnt in the process of mentoring itself, and this process can take years (Aspfors & Fransson, 2015).

As a result (Clarke et al., 2013), the research conducted by M. Clarke substantiated the immutable right of a mentor to mentor someone who is willing to cooperate in achieving professional growth.

Studies of M. Payne, G. Rogers, P. Hovkins, et al. indicate the need to use in the professional training of students the technology of supervision, the basis of which is the idea of applying the experience accumulated in the process of practical work. A subject teacher with high qualifications and authority in the professional community acts as a supervisor in a secondary school. Thus, in the process of pedagogical practice, the teacher-supervisor is delegated a number of important functions, mainly the educational function, which consists in improving the student's professional competence in correlating the existing theoretical knowledge with the goals, conditions and methods of practical activity (Ivanishcheva et al., 2022).

L. Darling-Hammond (2005) emphasises the effectiveness of integrating coursework with experiential learning. According to the researcher, the pairing of research work with pedagogical trials at school allows for a better understanding of the theoretical aspects of pedagogy and the application of concepts learnt by students in the course of writing coursework. The researcher emphasises the special possibilities of analysing activities in practice and ways of applying theoretical knowledge, the importance of the student's reflection on the prospects of practice in the school.

The Australian Council of Deans of Education, for example, in its reports advocates the central positioning of professional practice in the system of teacher training, its logical embedding in the educational process in order to link professional experience with the theoretical understanding of the essence of pedagogical (Vanassche & Kelchtermans, 2014). The deep rethinking, strengthening of partnership relations between higher education institution and school to overcome the gap between theory and practice, including at the level of training of master teachers, are devoted to the works of such foreign scientists (Patrick et al., 2008).

The Decree of the President of the Russian Federation of 7 May 2012 No. 601 "On the main directions of improving the system of public administration" defined the introduction of mentoring system, along with many other measures, as a new principle of personnel policy. In the system of teacher education, mentoring can be implemented in different types, models and techniques (Zhuravleva, 2023). The content of mentoring in teacher education is conditioned by the polyfunctional nature of professional-pedagogical activity and the dual subject of professional-pedagogical training (Vanhemping et al., 2021). This takes the content of the interaction between a mentor and a mentee beyond the boundaries of a narrow subject-methodological interaction. In the zone of their attention, there is the study and implementation of advanced pedagogical experience at the level of comprehension of its technological, design, communicative-informational and personal capabilities (Popov & Yandukova, 2022).

Studying the problems of mentoring, N.V. Tarasova, I.P. Pastukhova, S.G. Chigrina highlight the most important approach of mentoring activity – personalised support optimised to overcome the

identified competence deficits, problems and difficulties of teachers. The authors propose traditional and innovative tools for supporting young teachers (Tarasova et al., 2020).

The scientific article by E.A. Dudina identifies the key principles that allow successful mentoring activities: voluntariness, acceptance of one's role, presence of unifying factors (e.g., common interests, respect, trust, etc.). These involve readiness for mentoring interaction (for the mentor, it is orientation to work with people and self-development, responsibility, adaptability, openness to new ideas; for the mentee, this is orientation to development, openness to new ideas) (Dudina, 2017, p. 28). S.I. Pozdeeva (2023) emphasises the importance of the mentor being able to take different positions depending on the type of joint action with the mentee: a methodologist, a navigator, a tutor, a coach, a developer and a researcher. The team of authors T.N. Le-van, O.A. Shiyani, A.N. Yakshina in the context of changes in the social context of professional training and work of teachers considered the formats of mentoring. "Not the transfer of experience, but assistance in finding their own ways of solving professional problems; not control and assessment of compliance with standardised criteria, but joint reflection of practice; not training, but promotion of self-development – and presenting a model of competencies of a mentor of students of pedagogical universities and educators developed on the basis of theoretical analysis.

The analysis of educational practice allowed identifying different forms of mentoring implementation in pedagogical universities: "student-student", "teacher-student", "employer-student".

In order to meet the needs for highly qualified personnel, the pedagogical university conducts purposeful training of students by means of "immersion" in the professional context of pedagogical activity. We agree with the position of Z.Y. Diplomatova, V.N. Ivanov, G.A. Aleksandrova that pedagogical support of a mentor consists in providing theoretical and practical assistance in the workplace (Diplomatova et al., 2021). In this regard, it is advisable to train future teachers in the conditions of general education organisations under the guidance of experienced subject teachers.

3. Research Questions

The subject of the article is the problem of "immersion" of students in the period of pedagogical practice in the professional context of activity in the basic school with the support of a teacher-mentor.

4. Purpose of the Study

The aim of the article is to present the results of the research on studying the problem of mentoring students of the pedagogical university in the process of implementation of professional trials at the sites of basic schools of the Orenburg region.

5. Research Methods

Materials and methods of research are SWOT-analysis, questionnaire survey, semantic interpretation of data, methods of graphic presentation of materials, induction, comparison, generalisation, mathematical statistics. The results were analysed using the software package Statistica 10.0.

Empirical base of the study. This study presents the results of the study of professional samples of students of FSBEI VO "Orenburg State Pedagogical University" in general educational organisations of the Orenburg region.

The empirical stage of the research included the method of questionnaire survey of students, as well as the method of induction in order to interpret and generalise the results of the survey. We developed an author's questionnaire consisting of 30 questions (closed, open and semi-closed) grouped into the following blocks of questions:

- factors that influenced the need for training at the sites of basic schools;
- factors that indicate the need to mentor students in the process of professional trials;
- criteria for selecting a particular comprehensive school for immersion in the profession.

A total of 277 students of 3–5 years of undergraduate level, including 204 girls and 73 boys participated in the survey. The average age of the respondents was 21 years old. They study on the budget amounting to 89%, on contract (under agreements with payment for educational services) they accounted for 11%. The share of respondents by courses of study is as follows: 47.2% were 3rd year students, 40.5% were 4th year students, 12.3% were 5th year students. The average duration of filling in the questionnaire was no more than 20 minutes.

All respondents were informed about the purpose of the study and agreed to cooperate. The empirical data were collected in the form of anonymous questionnaires on the Yandex Disk online platform. Respondents were recruited in February-March 2023 using the programme's official group in the social network Telegram.

6. Findings

The most important task of mentors is to ensure that the orientations of teacher training students for their future labour activity correspond to the requirements of modern education. It is characterised by a high degree of content innovation, technological equipment, use of different forms of organisation of pedagogical activities at the sites of basic schools. The restructuring of the educational process in order to develop students' ability to quickly engage in new types and forms of professional and labour activity actualizes the implementation of professional trials.

The experimental data were analysed in three stages. At the first stage, the research task was solved: to identify differences in the structure of those who positively perceive the need to undergo professional training at the sites of basic schools. When classifying the data into the implementation of professional samples, the answers were attributed to 1 – absolutely disagree, 7 – absolutely agree. At the second stage, the research task was to identify factors that indicate the need for mentoring students in the process of professional trials. At the third stage, there was an identification of criteria for choosing a particular general education school for immersion in the profession.

It seems to us very important to find out how students see the impact of pedagogical mentoring on the success of mastering the profession. Three categories were identified for analysis, and the most frequent themes were tracked for each category (table 1).

Table 1. Mentoring as a form of support for a future teacher in the process of mastering the profession

No.	Units of analysis in descending order priorities	Total number of references	% to the total number of answers
1	2	3	4
	Functional parameter	38	37.7
1.	Awareness of professional and labour activities	10	26
2.	Normativity (discipline. responsibility. compliance. etc.)	7	18.1
3.	Leadership skills (authority)	3	7.9
4.	Willingness to provide support in learning a profession	2	5.2
5.	In-depth knowledge of the subject area	2	5.2
6.	Ability to transfer accumulated professional experience (ability to teach)	2	5.2
7.	Willingness to share professional experience	1	2.6
8.	Communication skills (sociability, willingness to establish good relationships; ability to express oneself clearly in an understandable language)	1	2.6
9.	Active life position	1	2.6
10.	Other	9	23.4
	Subjective parameter	27	35.2
1.	Professionally important qualities	6	27.0
2.	Experience in the implementation of professional trials	5	22.5
3.	Responsibility of the mentor for the person being mentored	4	18.0
4.	Dedication to the teaching profession	1	4.5
5.	Other	11	49.5
	Objective parameter	25	27.1
1.	Availability of academic degree/qualification category	6	24.0
2.	Awards, diplomas, prizes	4	16.0
3.	Frequency of professional development	3	12.0
4.	Participation in the social life of the school labour collective	2	8.0
5.	Length of service, age	1	4.0
6.	Other	9	36.0

The results of respondents' answers to the question "What is the role of mentoring in the process of mastering the teaching profession?" allow us to establish the fact that the most significant parameters were functional (37.7%), subjective (35.2%) and objective (27.1%). Analysing the frequency of mentoring characteristics, the social request "for a professional in his/her business" is obvious. In their understanding, a mentor should successfully combine theoretical knowledge with practical training, be in touch with the latest achievements in his/her field of knowledge, and possess supra-professional skills. Among the unacceptable qualities of a mentor, the respondents named "lack of motivation to pass on the accumulated professional experience" and incompetence. Unfortunately, a small part of respondents does not appreciate the importance of mentors' work and does not recognise its value.

Students agreed to varying degrees with all the statements concerning the goals (tasks) of mentors in the implementation of students' professional trials. The average score for all such statements ranges from the minimum 2.7 to the maximum 4.7 (table 2).

Table 2. Goals (tasks) of mentors in the implementation of future teachers' professional trials

Allegations	3–4 th -year students	5 th -year students
Practical immersion in the profession	3.30	6.33
Promoting the business image of a university teacher	3.30	4.84
Responsibility of the mentor for the person being mentored	3.40	5.31
Provision of professional support by a mentor	3.80	4.77
Translation of subject matter knowledge	4.0	5.50
Transfer of accumulated professional experience (the ability to teach	3.0	5.14
Interaction with students	4.10	4.98
Increasing student motivation for mastering the teaching profession	2.70	4.07
Increased confidence in the mentor as a professional	3.60	4.29
Disposition of students to the mentor as a person	3.70	5.01

The authors tested statistically significant differences between the responses of 5th-year students and 3–4th-year students to the statements regarding the goals (tasks) of mentors in the implementation of professional samples using the t-criterion for two independent samples. The analysis of differences on the basis of Livigne's criterion of equality of dispersions showed that for all variants of answers of 5th-year students and 3–5th-year students, the value of the significance index is $p > 0.05$. Hence, the null hypothesis of no differences is confirmed. The null hypothesis of no differences was also confirmed for the students' answers to statements 2, 3, 4, 7, 10 of Table 1. Statistically significant differences were revealed for statements 5, 6, 8, 9: the value of the significance index is $p < 0.05$ (from 0.002 to the maximum 0.019), the F-statistics of the T-test for these variables have rather high values (5.29–9.84).

The results of our survey on the importance of vocational training at basic school sites expressed by 5th-year students and 3–4th-year students were rather mixed: 59.4% and 25.9% of students (5th-year and 3–4th-year respectively) agreed with this statement ($\Delta 33.8\%$) (Figure 1).

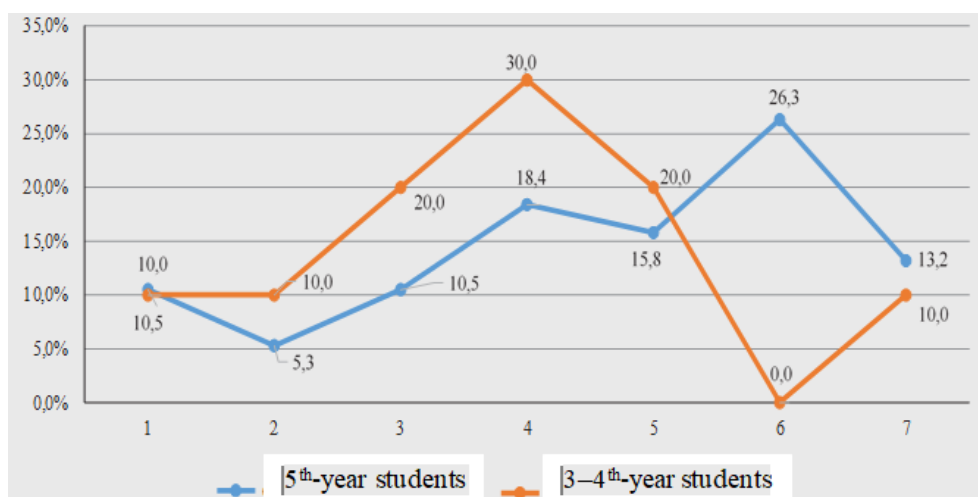


Figure 1. Distribution of students' answers about the importance of vocational training at basic schools, %

Note. Hereinafter: 1 – absolutely disagree, 7 – absolutely agree

Students note the high demand for a mentor during the period of pedagogical subject practice at school as the most important stage of professional development of a future teacher. This is rather explained by the fact that this period in the student's life is characterised by a significant number of risks associated with the level of student's training in academic disciplines (subject, psychology, pedagogy, theory and methodology of teaching), students' adaptation to new conditions, communication with the subjects of the educational process, etc.

Students were more unanimous (Figure 2). With a difference of $\Delta=5.4\%$, 5th-year students and 3-4th-year students agreed on the necessity of mentoring in the process of professional trials at the sites of basic schools (57.6 and 62.3%) (Figure 2).

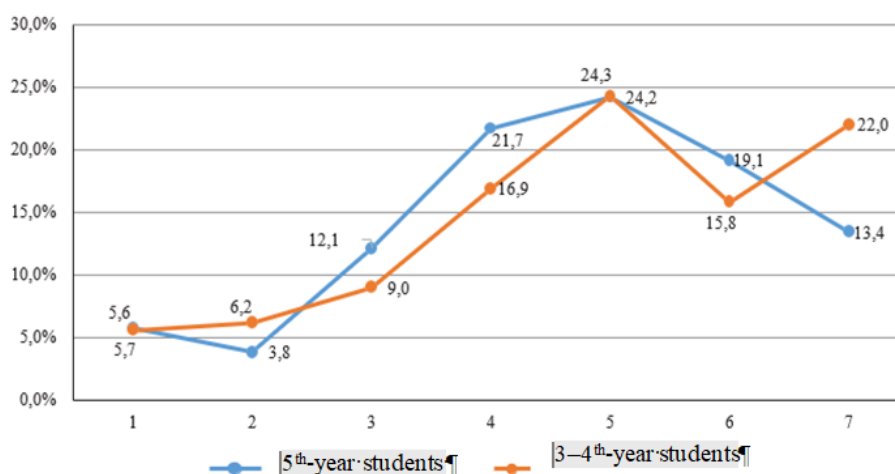


Figure 2. Distribution of students' answers about the necessity of mentoring in the process of professional trials, [%]

Students noted that, when assigning to classes in basic schools, mentors took into account the personal characteristics of the future teacher, his/her psychological stability and character traits, a level of preparedness (psychological, pedagogical, subject, methodological). When choosing a teacher-mentor at school, attention was paid to psychological compatibility and complementarity. Hence, we prevent methodological, psychological and communicative risks in the process of mastering the profession, as well as create a positive attitude of students to practice, their career success, personal and professional growth, readiness to work at school upon graduation from the pedagogical university.

A significant scatter of values is observed when analysing the students' answers expressing agreement/disagreement with the statement regarding the influence of a mentor on the choice of a particular comprehensive school for immersion in the profession (Figure 3).

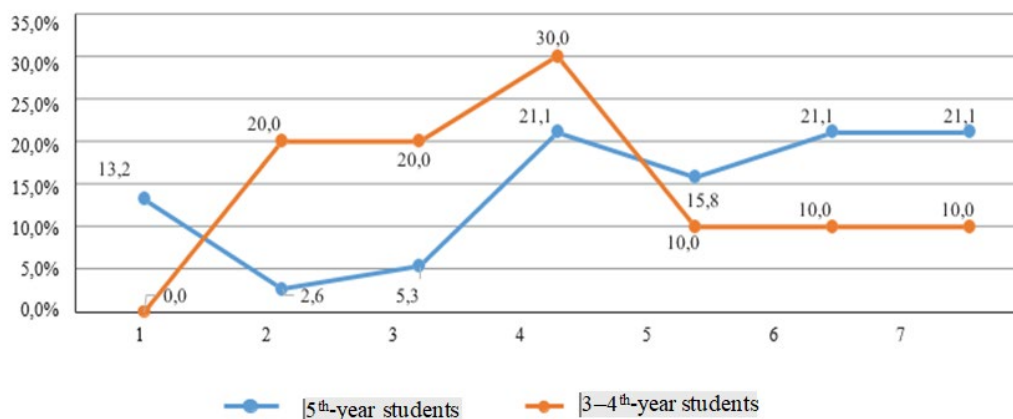


Figure 3. [Distribution of students' answers regarding the influence of a mentor on school choice, %]

Figure 3 shows that more 5th-year students (58.2%) agreed with this statement than 3-4th-year students (29.8%) with $\Delta=28\%$.

7. Conclusion

The empirical analysis showed the significance of professional qualities, individual-personal characteristics, and practical experience of mentors in the implementation of students' professional trials. The analysis of qualitative and quantitative assessments of 3-4th-year students and 5th-year students with regard to immersion in the professional context of pedagogical activity allows us to formulate the main conclusion and recommendations for the pedagogical university and the teacher. In order to increase the effectiveness of educational interaction "mentor-student", it is required to constantly learn and obtain practical skills in order to successfully support the entry into the profession. Students' higher quantitative assessment of the professional experience of mentors, compared to the assessment of teachers themselves, indicates their belief in the willingness of teachers to support them in building a successful career in education. This is especially relevant for 4th-year students who have successfully passed the interim certification and according to the approved Procedure of the Ministry of Education of the Russian Federation are allowed to work at school as subject teachers.

Theoretical and empirical analysis of the functional parameter of the mentoring as a form of support for the future teacher in the process of mastering the profession has shown that the professionally important qualities of the mentor is not only an element of the teacher's image, but also its translator into pedagogical reality.

The information that about 95% of 3-4th-year students and 87% of 5th-year students before attending the general education school (with different purposes) make an opinion about the mentor based on their monitoring in social networks (have their own accounts to promote their developments, programmes, author's courses) indicates its competitiveness in the market of educational services.

Professional auditions ensure that students are informed about the world of the teaching profession and have a social and pedagogical impact on career trajectory, adaptation and lifelong professional development.

When analysing the role of mentoring in the implementation of professional samples, differences in the views of senior students and final year students on most questions of the online questionnaire were revealed. The null hypothesis about the absence of statistically significant differences in the opinion of 3rd-year students and 5th-year students on the goals (objectives) and the necessity of immersion of a future teacher in the profession was confirmed. The hypothesis about the absence of differences in the opinion of students of different courses was partially confirmed and partially refuted.

From the authors' point of view, the findings will help teacher educators to differentiate and pinpoint the implementation of professional trials in a real school environment.

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