

**МАТЕМАТИКА ЖӘНЕ ТЕХНИКАЛЫҚ ҒЫЛЫМДАР**

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**PRE-SERVICE MATHEMATICS TEACHERS' BELIEFS ABOUT  
MENTORING PROGRAMS****Selim Guvercin***Assistant Professor, PhD, Suleyman Demirel University***Aida Nurymbetova, Aigerim Jetibayeva, Makpal Bolshabek***Msc Students in Suleyman Demirel University***Түйін**

Жүргізілген зерттеу жұмыстарының мақсаты толығымен ақпарат жинап, тәлімгерліктің жұмысын жаңадан бастаған мұғалімдерге әсерін талдау болып табылады. Қолданылған әдістер: аналитикалық, әдебиеттерді қарастыру, болжау, талдау және іздеу әдісі. Авторлар тәлімгерлік бағдарламасының оң және теріс жақтарын айқындау үшін мектептегі тәлімгерлік бағдарламасын зерттеп, сол бағдарламаның мағынасын анықтаған. Жас мұғалімнің кәсіби қалыптасуын тәлімдейтін даму институтының ұйымдастырушылық - педагогикалық шарттарына сай талдамасы бойынша қолдау көрсетіп, анықтама берген.

**Кілт сөздер:** ақпарат, аналитика, болжау**Резюме**

Целью исследования является сбор информации, и проанализировать влияние наставничества на начинающих учителей. Использованные методы: аналитические, изучение литературы, прогнозирования, анализа и метода поиска. Авторы пытались определить значение наставничества и изучить программу наставничества в школе с целью выявления положительных и отрицательных сторон программы. Определить и содействовать тому, что было также проанализировано организационно-педагогическими условиями развития института наставничества профессионального формирования молодого учителя.

**Ключевые слова:** информация, аналитика, прогнозирование

*Abstract. The aim of the study is to gather information and analyze the impact of mentoring on beginning teachers. Used methods: analytical, study of literature, forecasting, analysis, and search methods. The authors sought to determine the value of mentoring and to study a coaching program at the school in order to identify positive and negative aspects of the program. Identify and promote the fact that it was also analyzed the organizational and pedagogical conditions of formation of professional mentoring young teacher.*

## Literature review

### Mentoring at the school

One of the most important tasks of school administration is the organization of professional adaptation of the young teacher to the teaching and educational environment. Creation of system of school mentoring will help to solve this problem.

Professionally competent, independently conceiving teacher, mentally and technologically capable to realization of humanistic values in practice, to intelligent inclusion in innovative processes is necessary to modern school. However, as shows the analysis of school reality and socially pedagogical researches, even at rather high level of readiness for pedagogical activity personal and professional adaptation of the young teacher can proceed is long and it is difficult.

In spite of the fact that mentoring as one of work forms with young specialists exists long ago, nevertheless the administration of educational institutions needs methodical literature which would contain a material how to organize mentoring at school.

For the young specialist entry into new activity is accompanied by the high emotional pressure demanding mobilization of all internal resources. Creation of flexible and mobile system of the mentoring, capable to optimize process of professional formation of the young teacher, to create at it motivations to self-improvement, self-development, self-realization will help to solve this strategic problem. Vital need of the young specialist to get support of the skilled teacher of the mentor who is ready to give it practical and theoretical help on a workplace and to increase his professional competence is reflected in this system. Return to mentoring in modern educational process as to a work form with young teachers indicates insufficiency of other used administrative and educational technologies of training of specialists and opportunity to apply this type of the relations as a reserve of successful management of professional formation of the personality.

Recently even more often mentoring substitute for other concepts: "tutoring", "coaching", "mentoring". In modern pedagogic two terms are used: "mentoring" and "tutoring", the last concept was widely adopted in the countries of Europe and North America. Tutoring is other experience, other educational system, appeared in Russia because the created system of mentoring in the late eighties years of the last century was destroyed. The tutor – the observer for pupils, in English – the house teacher, the mentor, the educator.

Mentoring is the social institute which is carrying out process of transfer and acceleration of social experience, a form of continuity of generations. Besides, mentoring – one of the most effective forms of the professional adaptation, promoting increase of professional competence and fixing of pedagogical shots.

Task of the mentor – to help the young teacher to realize itself, to develop personal qualities, communicative and administrative abilities. But at appointment of the mentor the administration of educational institution has to remember that mentoring is the public assignment based on the principle of voluntariness, and to consider the following: the teacher the mentor has to possess high professional qualities, communicative abilities, enjoy authority on collective among the colleagues, studying (pupils), parents. The mutual consent of the mentor and the young specialist in collaboration is desirable also.

As mentoring is bilateral process, the main condition of learning efficiency the mentor of the young specialist to professional knowledge, to skills his readiness for transfer of experience is. The teacher the mentor has to promote in every possible way, in particular and a personal example, to disclosure of professional potential of the young specialist, to recruit it in public life of collective, to form at it socially significant interests, to promote development of a common cultural and professional outlook, its creative abilities and professional skill. It has to cultivate in it need for self-education and professional development, aspiration to mastering innovative technologies of training and education.

### **Method**

In developing the program to enhance mentor development, the main consideration was dependent on the willing of the mentors and interns. There was no agreement that enabled them to be remunerated for their participation. When developing the activities involved in the study were conscious of the need to maximize the interns' involvement in the internship while at the same time minimizing the disruption this participation might cause the mentors and the school.

Four teachers from an elementary school met regularly with a teacher educator (the researcher) from a university supervising interns to investigate collective experiences with mentoring. The half-year placement plan enabled four interns to be placed to the school during the study. The researcher was assigned for four hours per week as the university program liaison responsible for interns' supervision at the school. The goal of the program was to create the opportunity of support mentors learning in mentoring such that enhancing the quality of teacher education offered at the university by providing the interns with greater involvement with mentors. The

course of the program was designed to develop mentors' theoretical and professional knowledge in which underpins mentoring practice. The theoretical knowledge provides mentors with an understanding of designing principles and gives rise to the professional knowledge when mentors enact it in implementing tasks in classrooms. The two components integrated into the course containing 78 hours with twenty six 3-hour units were implemented at two stages: (i) a summer workshop with 36 hours containing twelve 3-hour sessions (ii) school-year initiates with 42 hours containing fourteen 3-hour sessions in a half year.

During the half-year internship, a collaborative mentor study group (CMSG) consisting of the researcher and four school teachers was set up. To provide the support of learner-oriented teaching and mentoring to the mentors, the structure of the activities was developed. The lessons of the mentors were scheduled to be observed twice in turn. The first of which was to enable each mentor to watch a pair of mentor-intern preparing a lesson, how to carried out the lesson, and de-briefing conversation between them on the lesson. The CMSG met routine weekly with 3 hours allowing mentors mutually support to learn from one another's mentoring in *preparing a lesson, observing, and reflecting on a lesson*. The intern was asked by the observed mentor to identify areas which she felt more problematic in implementation and reflection on the lesson. Each weekly meeting was audio and video taped. The researcher, as a learning partner of the mentors, played the roles in facilitating, probing, and giving feedback to the mentors and created the opportunity for the mentors to discuss how to maximize the opportunities of the interns' learning. The researcher believes that mentors' knowledge of mentoring is actively constructed through the integration of practical knowledge of teaching and experience of learning via social interaction. At the reaction level, the mentors were interviewed on the feedback of summer workshop and half-year school mentoring activities for measuring what they thought and felt about the program. At the learning level, pre-test and post-test were conducted aligned with self-assessment 5-scale questionnaire professional standards, which was built in previous year of the study, to assess the extent to which mentors change attitudes, improve knowledge and skill. The instrument with 15 items consisted of 5 items for assessing knowledge of content, 5 items of pedagogical knowledge, and 5 items of knowledge of students' cognition. The constructed validity and reliability of the questionnaires has been examined in previous study. At the behavior level, classroom observation, interview, and mentors' mathematics journal were measured how mentors transferred their knowledge and skill in mentoring as a resulted of the mentoring

program. Each mentor was also conducted individually with a semi-structure interview. The interview included questions about their views of teaching and mentoring, their mentoring practices as well. For the purpose of the study, only some parts of the data in the interview were used.

### Result

Classroom observation was measured how mentors transferred their knowledge and skill in mentoring interns' teaching as a result of the program. As observed, the mentors not only improved their pedagogical knowledge but also enhanced their ability in transferring to guide interns' on problem-posing, asking key questions, and anticipating students' possible solutions.

The four interns' performing in teaching is one of the indicators of examining the effect of the mentoring program. Each intern's lesson was assessed by eight assessors consisting of the researcher, four mentors, and three interns. The average score of each of the 10 items of classroom behavior for each intern was listed in Table below. The data shows that excepting the item of encouraging students to figure out various solutions and comparing them, they performed well in other items of teaching behavior. The average score of each item has greater than 4.0. The result indicates that mentors' mentoring in interns' knowledge and skill dealing with encouraging students to figure out solution is not so easy as other teaching skills.

Teaching behaviors	S 1	S 2	S 3	S 4	Mean
1. Drawing student's attention by using various strategies.	3.7	4.8	4.5	4.6	4.4
2. Appropriateness of using teaching aids (e.g. technology).	3.6	4.9	4.9	4.6	4.5
3. Asking key questions to support students' thinking.	3.8	4.4	4.1	4.5	4.2
4. Posing problems relevant to student's daily life.	4.3	4.4	3.5	4.5	4.2
5. High interaction with students.					
6. Encouraging students' to figure out various solutions.	3.6	4.9	4.5	4.0	4.3
	4.1	3.6	4.1	3.9	3.9
7. Enable to diagnose students' difficulty.					
8. Giving students' feedback at a right time.	3.6	4.3	4.3	3.8	4.0
	3.9	4.7	4.4	4.1	4.3
9. Giving a creative teaching.	3.3	4.9	4.8	4.8	4.5
10. Reaching the objective of the lesson.	3.4	4.1	4.3	4.4	4.1

Table: The average score of each item of teaching behavior for each intern.

## Conclusion

Results of research allow claiming that its tasks are solved, the hypothesis generally received confirmation. Results of the conducted research allow to offer scientific and practical recommendations about further development of system of the mentoring providing professional formation of the young teacher. Demand further consideration:

- use of structurally functional model of system of the mentoring providing professional formation of the young teacher in educational process;
- development and implementation of modular programs of updating of system of work with young specialists for teachers-mentors and heads of educational institutions within advanced training courses;
- optimization and activity coordination "Mentoring schools" as systems of methodical support in process of professional formation of the young teacher;
- synthesis of the best experience of tutorial activity and introduction of perspective forms of development of system of the mentoring, beginning teachers providing professional formation;
- improvement of development of selection criteria of teachers-mentors for the purpose of their productive interaction with young teachers in the course of professional formation;

Research showed that the problem of development of system of mentoring is multidimensional, and at the present stage our research represents one of the first attempts to shine some ways of its decision. Special research is demanded by a problem of the organization and development of the comprehensive program of management by mentoring system.

The literature analysis allowed determining its fundamental principles by problems of mentoring: constructive professional interaction of the mentor and the young teacher, selection of the mentor it has to be conducted with a position of compatibility of teachers, with observance of the principle of voluntariness. In relationship with the young teacher the mentor has to possess the developed abilities and observe a pedagogical step.

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