

## Technique for Formation of Future Teachers' Readiness for Their Professional and Pedagogic Cooperation

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### ABSTRACT

The article is devoted to the currently pressing high-education problem of formation of readiness by future teachers for their professional and pedagogic cooperation work. It describes the research on development, implementation, and results of methods of forming future teachers' readiness of different levels. Based on the approach to readiness as integrated phenomenon, three levels of readiness are indicated, namely, reproductive, reproductively creative, and creative. The research is carried out with the use of a complex of theoretical and empirical methods, including methods for determining the initial level of future teachers' readiness for their professional and pedagogic collaboration. The experiment has been conducted in two stages, each solving a particular task. The ascertaining stage included 347 students. At the forming stage, there have been used four groups of students: one control and three experimental groups. The experimental work has been aimed at implementation of the context-modular technology of future teachers' readiness formation for their professional and pedagogic cooperation. The results of the study reveal conditions for readiness formation for professional and pedagogic cooperation in the system of higher education.

### KEYWORDS

Readiness for professional and pedagogical operation,  
pedagogical method, pedagogical technique,  
quality of professional training for teachers

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## Introduction

Quality of training for teachers, to cite William Rutter, former specialist in the education sector of the International Labor Organization, quote, "is a combination of factors that are difficult to link together", unquote (Economist Intelligence Unit, 2012). There is a very practical explanation for it. According to Paul Keppan, known Canadian educator, teachers should be involved into life-long learning. Since it is impossible to instil love for learning, until you live it yourself (Wang et al., 2003).

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Scientists in Northern Ireland consider training for teachers to be a continuous process of professional development that goes far beyond the basic training (Department for Employment and Learning, 2014). Quality of training for future teachers implies not only deep understanding of new technique and teaching methods, but also requires a review of approaches to education and training on the basis of democratic and humanistic principles.

Implementation of the humanistic paradigm in education involves treatment of an individual, their values, favorable conditions for development of their creative skills and civic qualities, as priority for school, thus, transforming it into the center of education in spirits of cooperation and tolerance. In 1966, when Singapore only gained its independence, the country's minister of education Ong Pang Boon stated that, quote: "the future of each person is largely determined by the fact what teachers do in the classroom", unquote (Darling-Hammond, 2013). Forty years later, Singapore's Prime Minister Lee Hsien Loong emphasized the importance of teachers once again, quote: "Just as the welfare of the country is determined by the well-being of citizens, and citizens are prosperous only when a teacher is prosperous", unquote (Auguste, Kihn & Miller, 2010).

### Literature Review

Positive experience of countries can be studied in order to create and develop an integrated education system (Khan, Asadullah & Naz, 2015). For that reason, teachers should be treated as professionals, decision makers, and not just as specialists (Arber, Blackmore & Vongalis-Macrow, 2015; Parkay, Stanford & Gougeon, 2010). This includes providing them with professional freedom in how they work with students in class, as well as their involvement in decision-making at the level of school and system administration (Darling-Hammond & Rothman, 2011; Kennedy, Latham & Jacinto, 2016).

Meeting challenges of this scale and complexity is impossible without a fruitful dialogue between all subjects of education policy that inevitably leads to increased activity of collectivist principles to training and educational institutions (Hills, 1986).

In this regard, there is a growing need for highly qualified teaching staff, capable actively and competently, to cooperate with colleagues, students and their parents, members of the public (Ediger, 1988; Buxton, 2015).

However, if the issues on training for future teachers in the ways how to cooperate with students have been worked out actively in pedagogical science, the problem of shaping their willingness to cooperate and communicate with colleagues virtually stay out of sight of researchers (Brookfield, 2015).

Meanwhile, the willingness of teachers to cooperate with colleagues is, firstly, a contributing factor to integration of individual actions done by teachers into integrated teaching activity; secondly, the most important prerequisite for humanization of the educational process, as it provides the change of authoritarian orientation to democratic one at all levels of interaction; and, thirdly, the condition that helps to reduce mental stress, improve emotional stability, and individual self-regulation (Rogers, 2015). Therefore, one of the problems that require special attention at this stage is the problem of development of technique for formation of readiness of future teachers for their professional and pedagogic cooperation (Little & Lieberman, 1987)

Thematic topicality of the problem of development of technique for formation of readiness of future teachers for their professional and pedagogic collaboration, as well as its solving within the framework of additional professional (i.e., pedagogic) training, can be determined by a number of interrelated aspects. It is grounded on increasing role of communication in all spheres of society. Excellent interpersonal skills that allow to communicate well, to achieve goals of interrelation and collaboration between teachers, are becoming not only important requirement for a majority of modern professions, but also the basis for successful personal life. Correspondently, this defines the problem of communicative competence and ways of its forming, arising new up-to-date problems for educational system (Pugach & Johnson, 2002; Ebmeier & Nicklaus, 1999).

There can be identified a number of existing contradictions between:

- unbiased necessity to form communicative competence of teachers in modern society and conventional system of training for specialists that is proved to have been insufficient for effective communication in professional sphere (Klassen, Usher & Bong, 2010; Friend, 2000)
- necessity to build dialogues, run discussions between all agents of educational process, being condition stimulating changes in communicative environment in schools, and low level of teachers' readiness for reflecting such changes (Demir, 2008; Kelchtermans, 2006);
- increasingly demanding requirements for high degree of communicative competence of teachers, being the condition for successful implementation of modern approaches to education, and insufficiently developed methods for its formation currently applied within teachers' skills upgrading and capacities enhance training courses (Olsen & Sexton, 2009; Thompson, 2002).

### ***Teachers' Levels of Computer Use in Classrooms and Professional Development Programs***

Teaching in the 21st century requires teachers to take advantage of the unique features of computer technologies and to implement it in instruction for 21st century learners (National Research Council, 1996). In this context, students should be raised by teachers in accordance with the expectancies of the technology-advanced world. For technology rich teaching environments (Law, 2008; Thomas & Knezek, 2008), teachers are supposed to utilize the technological advantage of the opportunities offered to them by the information society. But, the crucial question is that "Are teachers ready to use this technology?" Several studies have tried to answer this important question. In a large scale study with 1705 teachers it was found that teachers were low-level technology users although schools were well-equipped.

As seen above, several studies reveal that although integration of technology into education is regarded as highly important for improving teaching, teachers are not always utilizing appropriate technologies (Chen, 2008; Dickson & Irving, 2002). This problem primarily depends on the lack of effective training. Teachers should be trained on how to use these technologies and learn to adopt it into instruction through TPDPs (Cavas et al., 2009). There are indications that teacher training programs for enhancing their TPACK are not sufficient and the quality of training programs are too low (Pelgrum, 2001). Similarly, limited training programs in Turkey is one of the main obstacles to the use of computer in education effectively (Özden, 2007; Toprakci, 2006).



### ***Purpose of the Study***

The purpose of the study is to develop and substantiate theoretically the technique for forming future teachers' readiness for their professional and pedagogic cooperation and to identify the pedagogical conditions for its effective functioning in the system of higher education.

### ***Research question***

What result will the context-modular method have on the formation of future teachers' readiness and their professional pedagogic cooperation?

### ***Method***

#### ***Participants***

Experiment has been carried out in two stages - ascertaining and forming. Our experiment on the ascertaining stage has involved 347 students of the Faculty of Foreign Languages of KSU. There have been four groups engaged into the experiment: one control (CG) and three experimental groups (EG-1, EG-2, EG-3).

#### ***Materials and measures***

The research has been carried out with application of theoretical and empirical research methods.

Theoretical methods:

- a) analysis of regulations on future teachers professional training;
- b) historical and pedagogical analysis has been used to build historiography of the research problem;
- c) theoretical and methodological analysis has allowed us to identify the initial research positions;
- d) conceptual and terminological analysis has been used to describe the conceptual field of the problem;
- e) systematic analysis has served as a holistic consideration of the problem.

Empirical methods:

- a) study and systematization of the most profound practices in teachers training;
- b) ascertaining experiment to determine the initial level of readiness of future teachers for their professional and pedagogic cooperation;
- c) conducting an experiment with practical implementation of the developed technique;
- d) observation, questioning, testing, self-assessment, method of expert evaluations.

We have used the developed technique for readiness for professional and pedagogic cooperation that is a combination of three modules. Each module is a content of a "full, logically completed unit" (Basova, 1999), which has the goal, content, methods and means of instruction, and the outcome.

The first module is aimed to help students to understand the basic knowledge required for professional and pedagogic cooperation, and for formation of the general pedagogic skills. Emphasis in this module is made on the "Pedagogy" Course, since



concept-terminology system of the discipline is a kind of "language for business communication" for educators teaching different subjects. In the course, there has been used a modular training. (Gareyev, Kulikov & Durko, 1987; Kukushkina, 2002).

Among contextual learning methods, there are the preferred methods of analysis of pedagogical situations, role-playing, and business games. Moreover, the first two methods tend to precede a business game, providing transition from the cognitive motivation to professional life-real situation.

The second module is aimed to deepen theoretical knowledge about the logic of professional and pedagogic cooperation, and to practice skills to ensure module implementation. The content of this module is our own elective course under the name "Professional and pedagogic collaboration in school". Under the course, students are introduced into the concept of professional and pedagogic cooperation, its features, logic, functions, and forms.

### Data, Analysis and Results

The experiment took place in classes at the Faculty of Foreign Languages of Kostanai State University named after Baitursynov (Kazakhstan).

The experiment was carried out in two stages (ascertaining and forming), each accomplishing a particular task.

The first stage – ascertaining – was aimed at the following objectives:

To examine training aimed at formation of future teachers' readiness for professional and pedagogic cooperation;

To determine diagnostic methods to effectively assess the level of readiness for professional and pedagogic cooperation;

To identify formedness level of readiness of future teachers.

It should be noted that we have given special attention to the ascertaining experiment, as reliability of the experiment results to a great extent depends on the initial data. The first phase of the experiment had been over a span of two years before the forming experiment started. One of the reasons for the long duration of the ascertaining stage was need for a reliable determination of the parameters of the initial level of readiness of the future teachers for their professional and pedagogic cooperation, which allowed us to complement the groups in the main experiment.

At the second stage – forming – the following tasks have been accomplished:

1. To implement practically the context-modular technique for formation of readiness of future teachers for their professional and pedagogic cooperation;

2. To compare effectiveness of our technique with conventional teaching and educational systems, that are traditionally used in training for teachers;

3. To check influence of selected conditions on effectiveness of technique for formation of readiness of future teachers for their professional and pedagogic cooperation.

The forming stage of the experiment has been being carried out with students of the Faculty of Foreign Languages over two years' span (second, third years of study) during their study at the university, as well as during their teaching practice in schools.

The control group has been trained without the introduction course of the context-modular technique for formation of readiness for professional and pedagogic cooperation. In the experimental groups proposed technique has been implemented under different conditions:

1. EG-1 – the technique has realized under specially created condition – orientation of students to awareness of the task structure of professional and pedagogic cooperation;

2. EG-2 – the technique has been implemented under two specially created conditions – orientation of students to awareness of task's structure of professional and pedagogic cooperation and use of active learning methods as a methodological tool;

3. EG-3 - the technique has been realized under three specially created conditions - orientation of students to awareness of task structure of professional and pedagogic cooperation, use of active learning methods as a methodological tool, and inclusion of participants during their study in cooperation at all stages of training.

Our experiment has been aimed at implementation of context-modular technique for formation of readiness of future teachers for their professional and pedagogic cooperation, and consisted of three phases: preparatory, main and final (Table 1).

**Table 1.** Exemplary topics and hours' distribution of the special course "Professional and pedagogical cooperation in school"

№	Topics	Hours	
		Lectures	Practical classes
1.	Cooperation as a modern tendency in education	2	
2.	The concept of professional and pedagogic cooperation	2	4
3.	Technique for collaborative task solving	2	6
4.	Forms of professional and pedagogic cooperation in school	2	6
5.	Readiness of a future teacher for professional and pedagogic cooperation	2	2
6.	Final lesson		4
Total: 32 hours		10	22

For each topic there have been planned a number of tasks:

1. the task of theoretical nature;
2. training exercises;
3. game tasks;
4. professional and pedagogical tasks.

However, the main purpose of this module is in developing the technique for professional and pedagogic cooperation, so the core of this module is pedagogical training.

There has proved be possible for students to obtain and save gained experience in professional and pedagogic cooperation only during teaching practice, because practical activity involves a variety of interactions, that is to say, student-learner, student-teacher, and student-student interaction forms. Accordingly to this, the

third module of the technique has been developed, with pedagogic practice being its content.

Readiness for professional and pedagogic cooperation is understood by us as an integrative, professionally significant quality of teacher's personality, being able to provide constructive problem solving in their holistic pedagogical work with colleagues, and their personal growth, and development of teaching staff on the whole. Being holistic, education is a unity of three components: motivation-targeting, content-assessing, and effectiveness-evaluating.

The experiment has been carried out to test the effectiveness of context-modular technique for formation of readiness for professional and pedagogic cooperation, and to verify pedagogic conditions for its successful operating. Promotion of students to higher levels of formation of their readiness (reproductive, reproductively creative, and creative) is proved to be the main criterion for efficiency of formation of readiness for their professional and pedagogic cooperation. According to the levels of readiness of future teachers for their professional and pedagogic cooperation, we have received the following data, shown in Table 2.

**Table 2.** Results of grouping students according to their levels of readiness for professional and pedagogic cooperation

Group	Number of students in the group	Levels					
		Reproductive		Reproductively creative		Creative	
		N	%	N	%	N	%
CG	18	7	38,89	9	50,00	2	11,11
EG-1	18	3	16,67	8	44,44	7	38,89
EG-2	19	1	5,26	8	42,11	10	52,63
EG-3	19	0	0	6	31,58	13	68,42

Comparing the results of the EG-1, EG2, EG-3 groups, we can see that in EG-3, where the technique has been applied under a set of pedagogical conditions, a number of students with creative level of their readiness for professional and pedagogic cooperation is considerably higher than in other groups, reaching 68.42%, with EG-2 - 52.63%, and EG-1 - 38.89%, correspondingly. The difference between the results of EG-1, EG-2 and EG-3 groups leads to the conclusion that the formation of readiness of future teachers for their professional and pedagogic cooperation has been carried out effectively in the group where we have implemented a set of selected pedagogical conditions.

In result of the carried out experiment, there appear to be unsolved problems regarding to the rationale for the principles of subjectiveness, dialogueness, coordination, and diatropology, and regarding to pedagogical conditions for forming subject-subject relationship in cooperation between teachers, i.e., identification and perception of aims, tasks, and ways of problem solving by future teachers; study of peculiarities, structure and technique for forming subject-subject relationship; creation and implementation of technique for forming subject-subject relationship at university and in school; choosing technique for diagnosis of levels of formation of subject-subject relationship between students and teachers; and systematic approach to pedagogic cooperation organizing.

Contextual aspect of the problem discussion relates to professional training programs for teachers, in particular, to their being enriched by life-long learning approach, and real-life environment for teachers' cooperation.

In general, we can come to the conclusion that personal aspect of preparation of future teachers for their pedagogic cooperation is seen as an integral, but, in some way, independent, element of the system of professional training for pedagogues. This element, in its combination with other elements, stimulates professional and personality development of future teachers in taking their training course for their effective unaided pedagogic activity.

### Discussion and Conclusion

1. Quality of teaching is the most important factor in school, affecting students' achievements, school success, and quality of the educational system of the country.

2. The purpose and outcome of the context-modular technique for formation of readiness for professional and pedagogic cooperation is a strong feeling of willingness, which is an integral, dynamically developing quality of a pedagogue's personality, characterized by unity of motivation-targeted, content-oriented and evaluation-resulted components. The effectiveness of the technique can be judged by the level of readiness for professional and pedagogic cooperation.

3. The main criterion for measuring within the context-modular technique for formation of readiness for professional and pedagogic cooperation is students' promotion to higher levels of readiness for their professional and pedagogic cooperation. Parameters that determine the level of future teachers' readiness for their professional and pedagogic cooperation are: self-motivation and priority attitude to their professional and pedagogic cooperation; competence in collaboration, being a set of theoretical knowledge and practical skills necessary for implementation of joint educational activities; and capacity for analysis and reflection of professional and pedagogic cooperation.

4. On the basis of criteria and features, readiness of future teachers for their professional and pedagogic cooperation is determined to constitute three levels of its formedness: reproductive, reproductively creative, and creative.

5. The conducted experiment with implementation of the context-modular technique and pedagogical conditions for effective formation of readiness of future teachers for their professional and pedagogic cooperation included three stages: preparatory, main, and final.

6. The complex of pedagogical conditions (students orientation toward realization of a given structure of professional and pedagogic cooperation; use of active teaching methods as methodological tools for formation of readiness for their professional and pedagogic cooperation; inclusion of participants at all stages of training) is necessary and sufficient for effective formation of readiness of future teachers for their professional and pedagogic cooperation within the framework of the context-modular technique.

7. The outcomes of the forming stage of the experiment have shown increasing levels of readiness of future teachers for their professional and pedagogic cooperation in all groups. The difference in levels of readiness for professional and pedagogic cooperation of involved into the experiment students



in the control and experimental groups proves that created pedagogical conditions, either separately, or in combination, mainly stimulate formation of the creative level of readiness for professional and pedagogic cooperation. The most significant changes have occurred in the experimental group being under a set of created pedagogical conditions. Under the partially created pedagogical conditions a number of students with creative level of readiness has proved to be considerably smaller.

The implementation of the context-modular system improves students' performance A. D. Fedotova (2014) argues that the context-modular approach is the logical extension of the competence approach and that the context-modular approach improves the level of students' self-organization, which was proven in this study.

According to G. D. Turchin (2007), the main problem of the context-modular system is the reconstruction of the educational process, despite the fact that the new system is significantly more effective in training future teachers and preparing them for professional and pedagogic cooperation. Delays in the reformation will deteriorate the occupational training of future teachers.

### Implication and Recommendations

The developed technology aimed at the development of readiness for professional and pedagogic cooperation unites the three modules. Each module is a logically complete unit, with its objective, content, methods, learning tools, and outcome.

The implementation of the context-modular technology aimed at the development of readiness for professional and pedagogic cooperation results in readiness, which is an integrative and dynamic quality of individual teachers, characterized by the unity of the motivational-targeted, content-assessment, and the operational-effective components. The effectiveness of this technology can be assessed by the level of readiness for professional and pedagogic cooperation. The introduced pedagogical conditions, both individually and in combination, facilitate, primarily, the development of a creative level of readiness for professional and pedagogic cooperation.

The suggested context-modular technology meets the requirements of the growing need for skilled teaching staff, capable of and competent in active cooperation with colleagues, students and their parents, as well as with the public.

### Disclosure statement

No potential conflict of interest was reported by the authors.

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