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Transformations in Teacher's Professional Activity within the Framework of Blended Learning
(Based on Russian Schools)

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Key research concepts and list of abbreviations

Individualization of learning – the learning process based on the individual characteristics of students in all its forms and methods regardless of what peculiarities and to what extent are considered [Unt, 1990]

Motivation – a complex part of human psychology and behavior that influences how individuals choose to invest their time, how much energy they exert in any given task, how they think and feel about the task, and how long they persist at the task [Bakar, 2014]

Flipped classroom – a rotation model in which within a given course or subject, students rotate on a fixed schedule between face-to-face teacher-guided practice (or projects) on campus during a standard school day and online delivery of content and instruction of the same subject from a remote location (often home) after school. The primary delivery of content and instruction is online, which differentiates a Flipped Classroom from students who are merely doing homework practice online at night. The Flipped Classroom model accords with the idea that blended learning includes some element of student control over time, place, path, and/or pace because the model allows students to choose the location where they receive content and instruction online and to control the pace at which they move through the online elements [Staker, Horn, 2012]

Station rotation – a rotation model in which within a given course or subject students rotate on a fixed schedule or at the teacher's discretion among classroom-based learning modalities. The rotation includes at least one station for online learning. Other stations might include activities such as small-group or full-class instruction, group projects, individual tutoring, and pencil-and-paper assignments. Some implementations involve the entire class alternating among activities together, whereas others divide the class into small-group or one-by-one rotations. The Station rotation model differs from the Individual-Rotation model because students rotate through all of the stations, not only those on their custom schedules [Staker, Horn, 2012]

Design component of a teacher's professional activity – a component of a teacher's professional activity that presupposes subject-methodical knowledge, the ability to determine learning objectives and outcomes, develop a lesson plan, etc.

Teacher's professional activity - an activity aimed at creating optimal conditions for the education, development, and self-development of the student's personality and the choice of opportunities for free and creative self-expression in the pedagogical process [Kodzhaspirova, Kodzhaspirov, 2005]

Blended learning – a formal education programme in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home [Staker, Horn, 2012]

Teaching tools – devices, equipment, including sports equipment and inventory, instruments (including musical), educational-visual materials, computers, information, and telecommunication networks, hardware, software, and audiovisual means, printed and electronic educational and information resources and other material objects necessary for the organization of educational activities [Federal Law «On Education in the Russian Federation» dated December 29, 2012 No. 273-FZ].

Transformation - modification or change in the form or structure of something [Encyclopedic Dictionary of Psychology and Pedagogy, 2013]

Digital tools in education – software that is not produced for educational purposes, but which may be used to support learning [Svendsen, 2021]

Digital technologies in education – a set of methods, ways, and means that ensure the processing, transmission, and display of information aimed at improving the efficiency of the educational process [Kyazimov, 2020]

List of abbreviations

USE - Unified State Examination

ICT - Information and Communication Technologies

MSDT - Monitoring of Schools' Digital Transformation

MEMO - Monitoring of Education Markets and Organizations

MES - Moscow Electronic School

OGE - Basic State Examination

RES - Russian Electronic School

TQA - Teaching Quality Assessment

EMC - Educational and Methodological Complex

FSES GE – Federal State Educational Standards of General Education

TALIS - Teaching and Learning International Survey

Introduction

Relevance of the research and the degree of elaboration of the topic

Currently, Russian school is going through one of the most intensive periods of its reform, which is manifested in the adoption of new federal state educational standards for general education, in the changed requirements for the construction of basic educational programmes, in the emergence of new of educational outcomes (personal and meta-subject), in active digitalization of Russian school (creation of the Digital Educational Environment, integration of the resources of the Moscow Electronic School, and Russian Electronic School, etc.), in expanding the educational space, etc. [Brizhan, 2018; Kasprzhak et al., 2019; Leonidova et al., 2019; Afanasiev et al., 2019; Abylkassymova et al., 2019; Chernobay, Tashibaeva, 2020; Bosova et al., 2021; Kulagin et al., 2022]. In addition, in recent years, the class-and-lesson system justified by Jan Amos Comenius, which had been successfully implemented in schools for several centuries has come under criticism [Polyakova, 2019; Karpov, 2022; Černá, 2019; Sobirova and Karimova, 2021]. Evidently, compared to the 17th century when it appeared, this system has undergone a lot of changes. New components have appeared, teaching methods have developed significantly, and new teaching tools, training equipment, etc. have been created. Presumably, if society had not made new demands on preparing the younger generation at school, the traditional system and learning environment, which is constantly improving, could still serve the school. However, the emerging information society, changes in the social requirements for the nature and content of school graduate training, and the educational needs of children in the "digital" age demanded that the school achieve new educational outcomes and raised the question of the need to create a new educational environment, new organizational forms of the educational process. Under these conditions, studies show that a modern teacher is more likely to be confused by the complexity of professional tasks, and the complication of their activity, than they know the answers to the main questions that arise before them [Marina et al., 2016; Umerenkov et al., 2018; Selikhova, 2017; Nichagina, 2017].

Another general peculiarity of modern teaching should also be considered. According to the UNESCO report "Reimagining Our Futures Together: a New Social Contract for Education by UNESCO", the professional activity of teachers is changing regardless of their experience under the influence of various factors since it is a complex and multifaceted profession that is realized in the conditions of tension between society and the individual. For this reason, teaching should not be associated with the activity of the teacher and students in the classroom behind closed doors since modern teaching expands the educational space and involves the cooperation of the teacher with other teachers. A focus on expanding the educational space and collaboration of participants in the educational process to achieve educational results can emphasize to a certain extent the need to go beyond the class-and-lesson system of education, in which the subject-object model prevails, in which the student acts as a passive recipient and gets ready-made knowledge. To implement the above, the report identifies four key principles that contribute to the development of teachers of the future [Reimagining Our Futures Together: a New Social Contract for Education by UNESCO, 2021]:

- The professional activity of a teacher is based on cooperation and teamwork, providing support for teachers, quality teaching in a supportive environment that meets the physical, social, and emotional needs of students.
- Development of new knowledge, reflection and research are an integral part of learning. Teachers should be supported and recognized as intellectually engaged learners who identify new areas of research and innovation, formulate research questions, and create new pedagogical practices.

- Support for the autonomy and freedom of teachers. A strong professional identity of teachers should be encouraged, as well as continuous professional development should be ensured.
- Opportunity for teachers to participate in public debate and dialogue about the future of education, i.e. the participation of teachers in the collaborative decision-making mechanisms necessary for the joint rethinking of education.

Based on this report, it can be assumed that a teacher lacks cooperation and teamwork with other teachers, as well as needs to expand the educational space that fosters the development of new approaches to learning. On the one hand, it allows teachers to actively interact with colleagues, and, on the other hand, it lets them go beyond the class. The search for and integration of new ways of teaching may also imply the readiness of a teacher to accept innovations in general since they imply the integration of innovative practices into the teacher's professional activity. To illustrate, the results of the Teaching and Learning International Survey (TALIS-2018) within Russian schools confirm that more than 85% of the teachers are open to innovations in teaching [Federal Institute for Educational Quality Assessment, 2019]. This result may confirm the willingness of Russian teachers to integrate new approaches into teaching.

The features of the professional activity of teachers have been actively studied by Russian and foreign scientists [Mitina, 2014; Vygotsky, 2005; Ostapenko, 2013; Winter, 2000; Mandel, 2018; Nikitina et al., 2002; Slastenin, 2002; Avalanche, 2006; Hirst, 1971; Shumate, 1987; Squires, 2002; Clarke, 2002; 57. Sachs, 2003; Lampert, 2010; Opfer, 2011; Tasker, 2014; Rajagopalan, 2019; Kennedy, 2019; Hargreaves, 2019; and etc.]. It should be emphasized that the professional activity of a teacher is undergoing constant changes under the influence of not only social, but also political, economic, educational, epidemiological, and other conditions [Chernobay, Davlatova, 2020; Mukhidinov, 2014; Bukhovtseva, Mukhortova, 2016; Fokkens-Bruinsma, Canrinus; 2012]. As an example, we can consider social changes in the context of an unfavorable epidemiological situation (COVID-19) and an emergency mass transition to remote learning, which have changed the professional activities of teachers, ways of organizing learning and interaction, means of keeping students' motivation, etc. This transition required not only to abandon the usual forms and means of education, but also to learn how to use new teaching tools and rethink teaching in general [Isaeva et al., 2020; Petrakova et al., 2021]. The experience gained during this period contributed to the formation and / or development of teachers' skills in the use of digital tools to some extent and identified activities that could be changed or optimized. For instance, automating the process of evaluating students' work, individualizing learning through various ICTs, etc. [Chernobay, Davlatova, 2020]. Looking for new ways to organize learning during the spread of COVID-19, some teachers have begun to use the “flipped classroom” and “station rotation” models of blended learning. During the period of full remote learning, teachers used models dividing learning mainly into synchronous and asynchronous modes. At the same time, having returned to full-time education conducted at school, they adhered to the basic principles for implementing the indicated blended learning models [Davlatova, 2022].

Blended learning is a formal education programme in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home [Staker, Horn, 2012]. Blended learning is implemented in different models (flipped classroom, rotation models, flexible model, etc.). Scientists distinguish from 3 to 40 models [Andreeva et al., 2016]. Flipped classroom is a rotation model in which within a given course or subject, students rotate on a fixed schedule between face-to-face teacher-guided practice (or projects) on campus during a standard school day and online delivery of content and instruction of the same subject from a remote location (often

home) after school. The primary delivery of content and instruction is online, which differentiates a Flipped Classroom from students who are merely doing homework practice online at night. The Flipped Classroom model accords with the idea that blended learning includes some element of student control over time, place, path, and/or pace because the model allows students to choose the location where they receive content and instruction online and to control the pace at which they move through the online elements [Staker, Horn, 2012]. Station rotation is a rotation model in which within a given course or subject students rotate on a fixed schedule or at the teacher's discretion among classroom-based learning modalities. The rotation includes at least one station for online learning. Other stations might include activities such as small-group or full-class instruction, group projects, individual tutoring, and pencil-and-paper assignments. Some implementations involve the entire class alternating among activities together, whereas others divide the class into small-group or one-by-one rotations. The station rotation model differs from the Individual-Rotation model because students rotate through all of the stations, not only through those on their custom schedules [Staker, Horn, 2012].

These days a great number of studies on the definition of the concept of "blended learning", the development of blended learning models, and the problems of integration and implementation of models in the educational process have been conducted. There are also domestic and foreign studies aimed at identifying the effectiveness of blended learning. Some studies confirm the effectiveness of blended learning [Mackey, 2015; Bottge et al., 2014; Veres, 2013; Chirikov I. et al., 2020; and others], while others have ambiguous results on its effectiveness [Clark, 2015; Fazal, Bryant, 2019]. Other research findings deny its effectiveness, confirming that of traditional face-to-face education [Hein, 2014]. Based on the studies that confirm the effectiveness of blended learning, positive results, for example, related to the increase in students' motivation for learning have been obtained. In 2013, a Russia-based project, with 10 leading schools (60 teachers, more than 900 students) from Moscow, Izhevsk, Naberezhnye Chelny, Orenburg, Perm, Tambov, Khabarovsk was implemented. The results of the project revealed that students' motivation for learning increased by 18% [Tsaregorodtseva, 2017]. According to the results of a study conducted by the Evergreen Education Group in cooperation with the Clayton Christensen Institute in 2015, which involved more than 30 American schools, both attendance, and the educational outcomes of students improved, by 3% and 11-19% respectively [Mackey, 2015]. The results of a study conducted by Wong K. and his colleagues showed that there is no significant difference in the academic achievements of students, but there is a positive effect on the independence and motivation of students in comparison with traditional education [Wong et al., 2020]. However, the study by Sarala A. et al. revealed that blended learning can significantly improve the overall performance of students, especially in the cognitive area [Sarala et al., 2022]. The effectiveness of using blended learning was also confirmed in a study conducted by Tambak S. et al. [Tambak et al., 2022]. The results of another study that was aimed at determining the impact of the use of a flipped classroom on students and teachers within the iFlipErasmus project should also be considered. 220 students and 96 teachers took part in the project. The study results confirmed an increase in students' motivation for learning due to the use of a flipped classroom. From teachers' point of view, teachers had an increased workload in developing materials and had difficulties engaging students in independent study [Lut, 2020]. These results were also confirmed in our study.

It is worth noting that most studies by Russian scientists consider blended or distance learning through the prism of higher education, while there is also an increased need for research within general education. Moreover, there are no comprehensive works devoted to the study of the professional activities of Russian teachers within blended learning. The latter also determines the theoretical significance of the study since the results will expand the existing knowledge about the professional

activity of teachers supplementing them with data on the features of this activity within the framework of blended learning in a modern Russian school.

Thus, to sum up, we can identify several factors that determine the relevance of this study:

- inconsistency of the class-and-lesson system with the needs of modern teachers and students,
- active digitalization of the school, contributing to the expansion of the educational space,
- teaching experience during the spread of COVID-19,
- the lack of comprehensive studies of the teacher's professional activity within blended learning.

Scientific research apparatus

The **object of the research** is the professional activity of a teacher within the framework of blended learning.

The **subject of the study** is transformations in the design component of the teacher's professional activity while using the "flipped classroom" and "station rotation" models of blended learning and the correlation of these transformations with students' motivation for learning.

Research hypotheses:

1. The use of blended learning models causes transformations in the design component of teachers' professional activities.

2. Factors contributing to the use of blended learning models are mainly related to the inconsistency of the classroom system with the needs of teachers and students and teaching experience during the spread of COVID-19.

3. The use of blended learning models increases the motivation of students to learn.

The goal of the research is to study and determine transformations in the design component of the teacher's professional activity within blended learning and to identify how they correlate with students' motivation for learning.

Research questions:

- What factors encourage teachers to use blended learning models?
- What transformations are taking place in the professional activity of teachers within blended learning?

- How do transformations in the professional activity of teachers within a blended learning environment correlate with the students' motivation for learning?

Research objectives:

1. To identify approaches to the definition of the concept of "teacher's professional activity" and the classification of the components of a teacher's professional activity based on the analysis of domestic and foreign literature.

2. To study the features of the design component of the teacher's professional activity within blended learning.

3. To analyze approaches to the definition of the concept of "blended learning" and the classification of blended learning models as well as to study the implementation features of the "flipped classroom" and "station rotation" models.

4. To study the key stages of active interest in blended learning in Russia and abroad and the factors that contributed to the integration of blended learning in Russian secondary education organizations.

5. To conduct interviews with Russian school teachers to identify transformations in the design component of the teacher's professional activity using the “flipped classroom” and “station rotation” models (semi-structured in-depth interviews).

6. To classify the identified transformations in the design component of the teacher's professional activity while using the "flipped classroom" and "station rotation" models of blended learning.

7. To survey students to identify the relationship between transformations in the design component of the teacher's professional activities and the motivation of students to learn (an online survey).

8. To develop an advanced training course for teachers interested in applying the "flipped classroom" and "station rotation" models in school (including teacher support at the initial stage).

Theoretical significance and scientific novelty of the research

1. A comparative analysis of the definitions of the concept of "teacher's professional activity" has been carried out, and the main approaches to the definition of this concept have been formulated. A comparative analysis of the components of the teacher's professional activity, proposed by Russian and foreign scientists, was also carried out. Based on the generalization, three key components were identified (design component, teaching component, reflective component).

2. The main approaches to the definition of the concept of "blended learning" have been identified as well as a comparative analysis of the classifications of blended learning models developed by Russian and foreign scientists at different stages of the development of blended learning, including the modern one, has been carried out. As a result, two approaches to the blended learning models classification have been identified. Blended learning models mainly distinguished based on didactic and organizational characteristics.

3. A contribution to the discussion about the study of the design component of the teacher's professional activity within blended learning has been made. The study identified transformations in the design component that change the ways of interaction, means, and educational spaces (Group 1. Changes in the teacher's and student's responsibility for the educational process and outcomes; Group 2. Changes in the relationship between teachers and students; Group 3. Changes in the organization of the educational process; Group 4. Changes in the selection of means and content of education).

4. It has been found that the "flipped classroom" and "station rotation" models of blended learning contribute to the successful achievement of the learning outcomes by combining the characteristics and advantages of face-to-face and online learning.

5. The correlation between the transformations in the design component of the teacher's professional activity and the students' motivation for learning has been established while a positive atmosphere in the educational space presented. By a positive atmosphere, we mean goodwill, respect, attentiveness of the teacher to students, good mood, and encouragement of students.

Practical significance of the research

1. The need for training teachers in the use of blended learning models has been identified based on the interview results.

2. Advanced training programmes “Blended Learning in the Russian School” and “Digital Tools in the Teacher’s Professional Activity” have been developed for teachers interested in applying blended

learning models, including teacher support at the initial stage. The programmes are based on the identified transformations in the design component of the teacher's professional activity,

3. A questionnaire aimed at determining the students' attitude towards "flipped classroom" and "station rotation" models of blended learning has been composed.

Theoretical framework of the study

In this study, the theory of hybrids and the theory of social constructivism were used as the theoretical framework.

The theory of hybrids was developed by the representatives of the C. Christensen Institute, Staker H. and Horn M. It is based on the theory of disruptive innovation of Christensen C. The theory of hybrids involves the combination of new disruptive technologies with the old ones and is a sustainable innovation compared to the old technology. The key concept of the theory is a hybrid that has four characteristics [Christensen et al., 2013]:

- The hybrid includes both old and new technology.
- The hybrid is focused on the existing audience.
- The hybrid does the work of the existing technology and increases the number of performed functions.

- The hybrid does not reduce the level of wealth and/or experience required to acquire and use it.

Within the framework of the theory of hybrids, the authors single out the "flipped classroom", "station rotation" and "laboratory rotation" models since they are hybrid innovations and have the above-mentioned characteristics [Christensen et al., 2013]. Hybrid innovations such as the "flipped classroom" and "station rotation" models combine the benefits of online (disruptive new technology) and traditional face-to-face (old technology) learning. Other models of blended learning are implemented within the framework of the theory of disruptive innovation. The theory of hybrids was used as a theoretical framework because it allowed to explore the activities of teachers and students taking into account the peculiarities of the "flipped classroom" and "station rotation" models.

The theory of social constructivism, developed by L.S. Vygotsky, is used as a second theoretical framework. It is one of the varieties of the theory of constructivism. The term "constructivism" was first used by J. Piaget in the late 1960s, and then became widespread in the 1980s to designate theoretical and methodological schemes that emphasize the role of experience, categorization, attitudes, and schemes in the process of perception, the role of language, discourses and other cultural practices in building a picture of the world, the role of social, historical and cultural factors in the production of scientific knowledge [Petrova, Sverdlova, 2017]. Constructivists point out that learning is a process of building knowledge, meaning, and understanding of one's own experience [Caffarella, Merriam, 1999]. From the constructivists' point of view, the student plays an active role in the learning process, can independently manage the learning process and experience, and the teacher creates conditions for the student's independence and acts as a mentor [Amineh, Asl, 2015]. As E.V. Piskunova states, "Constructivist pedagogical mindset encourages the teacher to see the child as a researcher and build subject-subject relations with him in the educational process, considering the teaching process to be a process for providing students with opportunities to learn, to solve learning problems in a joint search and choose the right learning strategy" [2018].

Social constructivism contributes to a deeper understanding and structuring of educational activities, the formation of an active role for the student, the development of skills for independent study of material based on previous experience, group activities, reasoning, introspection, reflection, etc.

Through the theory of social constructivism, the activities of the teacher and students are analyzed based on the active role of the student, the inefficiency of transferring ready-made knowledge, cooperation, and independence in learning, which is very significant when implementing the “flipped classroom” and “station rotation” models. The use of the theory of social constructivism and the theory of hybrids as a theoretical framework for the study made it possible to study the features of the design component of the teacher's professional activity, using the models of blended learning "flipped classroom" and "station rotation", and the peculiarities of students' perception of learning through the prism of these transformations. The research materials (interview guide and online questionnaire) were developed based on the described theories.

Methodology and Research Methods

The qualitative (interview) and quantitative (online survey) methods were used since the study assumed the collection of factual information about the transformations in the teacher's professional activity within blended learning and the correlation between the identified transformations with students' motivation for learning. The study was undertaken from February to May 2021. As a result, 28 semi-structured in-depth interviews were conducted with teachers of foreign languages from Moscow, Balashikha, Yoshkar-Ola, Yekaterinburg, Voronezh, and Mineralnye Vody, as well as an online survey of 300 K-9, K-10, and K-11 students, who are the students of the teachers, participated in the interview. We used Convenience Sample. The search for teachers was carried out through the professional community "Center for Blended Learning", which is on the social networking site "Facebook". Examining the teacher portrait, the study involved teachers with different teaching experience and experience in using the “flipped classroom” and “station rotation” models (more than a half began to use the models during the spread of COVID-19, the rest of the teachers began to use the models before the COVID-19 period). We adhered to three main criteria while choosing teachers: a) the use of “flipped classroom” models and/or “station rotation”, b) teaching foreign languages, and c) teaching K-9, K-10, and K-11 students. After the interviews, we conducted an online survey of the students to clarify their attitudes toward learning using the indicated blended learning models to determine whether they like or dislike learning using these models and their reasons.

We referred to the theory of hybrids, the theory of social constructivism and considered the classification of the components of the teacher's professional activity developed by Ch. Danielson, proposed in the Framework for Teaching Evaluation Instrument. In particular, we focused on the content and criteria for evaluating the design component of a teacher's professional activity. Consequently, we formulated questions related to personal and professional experience in designing blended learning in comparison with the traditional approach. The interview guide contains three key stages: acquaintance and warming up, focusing on the peculiarities of designing blended learning and completion.

Having determined the content of the interview guide, we began to develop an online questionnaire based on the Huang Q. questionnaire, aimed at studying the perception of students using blended learning [2016]. However, the questionnaire was significantly adapted to the Russian context. The questionnaire included 18 questions of open and closed types, as well as Likert scale questions. The questions can be presented in four groups: student preferences for various forms of learning in a blended course, the availability of an online learning system, the relationship between face-to-face and online learning, and the role of face-to-face and online learning. It should be noted that we also considered the main characteristics of the theory of hybrids and the theory of social constructivism, therefore, questions on the peculiarities of using various teaching aids, active learning methods, active and passive roles of

students, students' attitude towards independent learning, ways of organizing the interaction of participants in the educational process, teacher's involvement in the learning process were added to the questionnaire. As a result, the online questionnaire contained 40 questions. The following types of questions were proposed:

- semi-closed questions (students had to choose from the proposed list or write their answer),
- open-ended questions,
- Likert scale questions.

To a certain extent, this allowed to identify students' attitudes toward a particular learning component within the “flipped classroom” and “station rotation” models.

We implemented the thematic coding method to analyze the obtained interview data, for online survey results analysis a correlation analysis in SPSS was carried out.

The study consisted of the following stages:

- The preparation stage aimed at defining a research sample, developing an interview guide and an online questionnaire, and conducting a test interview and an online survey.
- The research stage included interviews with the teachers of foreign languages and an online survey of K-9, K-10, and K-11 students.
- The data processing stage and interpretation of the obtained results.

Thesis statements:

1. The importance of designing learning materials and the teacher's responsibility for the developed material increases while using blended learning models since its correctness correlates with the productivity of independent study of material by students.

2. A variety of teaching means and content, forms of interaction, and individualization within the “flipped classroom” and “station rotation” models help students develop a more responsible attitude toward learning and have a significant impact on students' motivation for learning within a positive atmosphere in the educational space (by a positive atmosphere, we mean goodwill, respect, attentiveness of the teacher to students, good mood, and encouragement of students).

3. Changes in the teacher's professional activity within blended learning are not only methodological. They are also conceptual ones since they require changes in the vision of teachers and students in the organization of the educational process.

4. Transformations in the design component of the teacher's professional activity are expressed in the responsibility of the teacher and students for the educational process and outcomes, in the relationship between teachers and students, in the organization of the educational process, in the selection of teaching means and content.

5. Factors facilitating teacher to use the “flipped classroom” and “station rotation” models include the inadequacy of traditional means and approaches to learning, teaching experience during the spread of Covid-19, school participation in projects related to the active integration and use of digital instruction tools, the possibility of development students' independent study skills, individualization of learning, increasing students' motivation for learning, etc.

Theoretical foundations of the research

Teacher's professional activity: approaches to definition and classification of components

The studies of V.A. Slastenin, L.M. Mitina, N.V. Kuzmina, I.A. Zimnyaya, L.S. Vygotsky, A.N. Fominova, E.A. Drugova, B.R. Mandel, N.N. Nikitina, N. Shumate, I. Rajagopalan, G. Squires, P.H. Hirst and others served as the theoretical basis of the current research.

While analyzing the literature devoted to the teacher's professional activity, we found out that domestic and foreign scientists define the status of a teacher as a professional activity in different ways. For instance, in contrast to domestic scholars, foreign researchers had been questioning teaching as a profession for a long time [Cline, 1948; Rowan 1994; Hauge, 1994; Ingersoll, 1997; Robson, 1998; Shields, 2003; Hargreaves et al., 2007; Crowe, 2008; Ingersoll, Perda, 2008; Ballantine, Spade, 2011; Allen et al., 2019; Kasapoglu, 2020; Svennen, 2020; Meirkulova et al., 2022]. It enabled various comparative studies to confirm or refute the status of teacher as a profession.

It is worth emphasizing that the teacher's professional activity in Russian and foreign science is denoted by more than one term. Domestic researchers mainly use the terms “teacher's professional activity” [Mitina, 2014; Fominova, 2013; Markova, 1993; Morozova, 2005; Maslak, 2009; Kozyreva, 2020, Muhidova, 2020; Molchanova, 2020; Perevozny, 2021; Dmitrenko, 2022; Skripnikova, 2022; etc.], “pedagogical activity” [Slastenin, 2002; Zimnyaya, 2000; Markova, 1987, 1993; Mandel, 2018; Dautova, 2013, Gurov, 2021; etc.], and foreign researchers mainly use the term “teaching” [Squires, 2002; Lampert, 2010; Amidon, cited in Rajagopalan, 2019; Schlekhti, cited in Ababio, 2013; and etc.]. Within the framework of the study, these terms are used as synonyms. It is important to clarify that the definition of the teacher's professional activity is also diverse. We identified several approaches to the definition of a teacher's professional activity based on the literature review. The definitions were distinguished on the basis of:

- the leading goal of the activity: self-education or training of others.
- multidimensionality: teaching as a competence, teaching as an art, teaching as an applied science, etc.
- the place of implementation: in an educational organization, outside an educational organization.

We adhere to the definition proposed by G.M. Kodzhaspirova and A.Yu. Kodzhaspirov, which states that a teacher’s professional activity is “an activity aimed at creating optimal conditions for the education, development, and self-development of the student’s personality and the choice of opportunities for free and creative self-expression in the pedagogical process” [2005].

Different classifications of the components of the teacher's professional activity are offered, some of them are indicated in Table 1.

Table 1. Comparative analysis of the components of a teacher's professional activity

Stages	The theory of pedagogical systems (N.V. Kuzmina)	The components of the teacher’s professional activity (L.M. Mitina)	The components of the teacher’s professional activity (A.K. Markova)	The Framework for Teaching Evaluation Instrument (Ch. Danielson)	Blended Learning Teacher Competency Framework (A. Powell et al.)	Components used in the research
Before the lesson	Design Skills	Pedagogical Goals and Objectives	Defining Pedagogical Goals and Objectives	Planning and Preparation	Mindsets	Design Component
	Prognostic		The Choice			

	Element		and Use of Means to Influence Students			
	Constructive Skills					
At the lesson	Organizational Skills	Teaching Tools and Ways to Solve Everyday Problems	The Choice and Use of Means to Influence Students	Instruction	Technical Skills	Teaching component
	Assessment Element				Adaptive Skills	
	Communication Skills			The Classroom Environment	Technical Skills	
After the	Gnostic Skills	Analysis and Evaluation of Teacher's Pedagogical Actions	Control and Evaluation by the Teacher of his Pedagogical Action	Professional Responsibilities	Qualities	Reflective component
					Adaptive Skills	

A detailed description of the components of the teacher's professional activity, indicated in Table 1, is presented in the dissertation.

In addition, it should be emphasized that despite the active study of a teacher's professional activity, there are currently no comprehensive studies of this activity within the framework of using blended learning in Russian schools. It is of crucial importance due to the active digitalization of the Russian school and the expansion of the educational space through the creation of a digital educational environment, the use of the resources of the Moscow Electronic School, Russian Electronic School, the development of individualization of learning, interest in developing students' independent study skills, etc. This research helps understand the peculiarities of the teacher's professional activity within the blended learning environment and develop recommendations for conducting "flipped classroom" and "station rotation" models.

Blended learning: approaches to definition and classification of models

The studies of foreign and domestic scientists [Staker, Horn, 2012; Bonk et al., 2002, 2012; Graham, 2009; Valiathan, 2002; Stewart, 2002; Cronje, 2020; Andreeva et al., 2016; Andreeva, 2019; Lubomirskaya, 2019; Nedogreeva et al., 2021; Blinov et al., 2021, Kazakova et al., 2018; Nagaeva, 2016; Nazarenko, 2014; Fandey, 2011, 2012; Fomina, 2014; Vasilyeva et al., 2019] served as the theoretical basis of the current research. There are different approaches to the definition of blended learning and the classification of blended learning models.

In the international context, there are three key periods of active interest in blended learning: the concept of blended learning appeared in the 2000s [Cooney et al., 2000], the definition of blended learning was given in 2006 [Bonk, Graham, 2012], the definition of blended learning was clarified due to distinguishing between blended learning and learning using ICT in 2012 [Staker, Horn, 2012], and during the spread of COVID-19. In Russia, these periods are slightly different: blended learning was integrated into some Russian schools in 2013-2014, Moscow Electronic School and Russian Electronic School were created and implemented as innovative educational tools and spaces in general education

schools in Russia in 2016-2017, significant interest in blended learning has arisen due to an urgent mass transition to remote learning because of the spread of COVID-19 from 2020 till the present. Most likely, there will be another post-COVID-19 period.

Blended learning emerged in the early 2000s. According to Güzer B. and Caner H., this concept was first introduced by Cooney M., Gupton P., O’Laughlin M. in their joint work “Blurring the Lines of Play and Work to Create Blended Classroom Learning Experiences” [2014]. However, Cooney M., Gupton P., O’Laughlin M. considered blended learning as a combination of forms of play and work when teaching pre-school students [2000]. Another understanding of blended learning, i.e. learning implemented at the asynchronous and synchronous levels, was introduced in a study conducted by Bonk C. et al. in 2002 [2002]. Scientists carried out advanced training for military students at three stages: asynchronous training via the Internet, synchronous training via virtual joint chat and face-to-face training. In the same year, Stewart J. used the concept of blended learning as a combination of online (indirect) learning and traditional classroom (direct) learning [Stewart, 2002]. It is important to note that the concept of blended learning was proposed by researchers in the 2000s, but at that time it did not have a precise definition.

In 2012, the content and concept of blended learning expanded due to the research of the representatives of the Clayton Christensen Institute. They defined it as a formal education programme in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home [Staker, Horn, 2012]. In this thesis, the author follows the representatives of the Clayton Christensen Institute and adheres to this definition.

Nowadays, there are three main approaches to its definition [Bonk, Graham, 2012]:

1. A combination of forms of teaching or means of transmitting information, i.e. combining different technologies and activities.
2. A combination of teaching methods, i.e. combining different learning approaches such as behaviorism, constructivism, cognitivism, etc., to achieve learning outcomes without or with the use of technology.
3. A combination of online and face-to-face learning (until 2012) with elements of self-control by the student of the path, time, place, and pace of learning (since 2012).

According to the representatives of the Clayton Christensen Institute, there are from 3 to 40 blended learning models [Andreeva et al. 2016]. Let us consider in detail the classifications of models developed by foreign and Russian researchers.

P. Valiathan identifies three models based on the learning goal [Valiathan, 2002]:

1. Skill-Driven Model (based on independent learning of students, in which the teacher plays the role of an instructor or facilitator to manage the process of expanding the necessary knowledge and developing skills among students).
2. Attitude-Driven Model (learning implemented through various situations and ICT, it is aimed at the formation of a certain type of behavior).
3. Competency-Driven Model (combines performance support tools, knowledge management resources, and mentoring to develop professional competence).

C. Graham identifies models of blended learning in higher education based on four levels [Graham, 2009]:

1. Activity-Level (implemented by combining face-to-face and online learning or learning organized with the help of ICT. Within the framework of this model, online forums for discussing

learning topics and problems, e-mail correspondence, video conferences, various web tools for establishing communication, etc. can be used).

2. Course-Level (At this level, online and face-to-face learning are considered to be direct components of the course. Both forms of learning are implemented simultaneously).

3. Programme-Level (This level also combines face-to-face and online (distance) learning. A striking example of the implementation of this model is the Distant English Language Teacher Training programme implemented in Turkey. Two years of study in the programme are conducted full-time and then followed by distance learning).

4. Institutional-Level (At this level, institutions are demanding the integration of online and face-to-face learning. Based on these requirements, educational organizations develop their own blended learning models that meet their specific needs).

Staker H. and Horn M. distinguish four models of blended learning: (1) Rotation Model, including Station-Rotation Model, Lab-Rotation Model, Flipped-Classroom Model, and Individual-Rotation Model; (2) Flex Model; (3) Self-Blend Model; (4) Enriched-Virtual Model [Staker, Horn, 2012]. We will focus on the peculiarities of "flipped classroom" and "station rotation" models. The flipped classroom is a rotation model in which within a given course or subject, students rotate on a fixed schedule between face-to-face teacher-guided practice (or projects) on campus during a standard school day and online delivery of content and instruction of the same subject from a remote location (often home) after school. The primary delivery of content and instruction is online, which differentiates a Flipped Classroom from students who are merely doing homework practice online at night. The Flipped Classroom model accords with the idea that blended learning includes some element of student control over time, place, path, and/or pace because the model allows students to choose the location where they receive content and instruction online and to control the pace at which they move through the online elements [Staker, Horn, 2012]. The peculiarity of the model is that the learning process is implemented in synchronous and asynchronous modes. Independent learning is implemented asynchronously at a convenient time, place, and pace for students according to materials designed by the teacher in advance, as a rule, in a virtual classroom. Station rotation is a rotation model in which within a given course or subject students rotate on a fixed schedule or at the teacher's discretion among classroom-based learning modalities. The rotation includes at least one station for online learning. Other stations might include activities such as small-group or full-class instruction, group projects, individual tutoring, and pencil-and-paper assignments. Some implementations involve the entire class alternating among activities together, whereas others divide the class into small-group or one-by-one rotations. The station rotation model differs from the Individual-Rotation model because students rotate through all of the stations, not only those on their custom schedules [Staker, Horn, 2012]. The model involves the use of different forms of work and active learning methods. The model harmoniously combines active learning methods at the stations of online learning and independent work and traditional learning at the station of work with a teacher.

Blended learning is also being actively explored in Russian pedagogical science. However, the undivided attention of scientists and teachers is paid to theoretical and practical problems, the process of integrating blended learning (or distance learning) into the educational process in higher education (Bogomolov A.N., Kapustin Yu.I., Korchazhkina O.M., Nagaeva I.A., Nazarenko A.L., Titova S.V., Fandey V.A., Fomina A.S., and others). However, there is also quite an interesting book on the use of blended learning in schools written by N.V. Andreeva, L.V. Rozhdestvenskaya, and B.B. Yarmakhov, in which blended learning is presented as an educational approach. Its authors examine blended learning

models, provide recommendations for their integration into the educational process, and share practices of using models in Russian schools.

It should be noted that in the Russian professional community, following the representatives of the Clayton Christensen Institute, blended learning is understood as a formal education programme in which a student learns at least in part through the online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home [Staker, Horn, 2012].

We will consider the classifications of blended learning models proposed and used by Russian researchers. Following the representatives of the Clayton Christensen Institute, N.V. Andreeva, L.V. Rozhdestvenskaya, and B.B. Yarmakhov distinguish the following models: Flipped Classroom, Station Rotation, Lab-Rotation, Flex Model. The description of models coincides with the description of the models presented in the classification of Staker H., and Horn M.

The classification of blended learning models developed by V.A. Fandey is radically different from the above. Having analyzed foreign studies, V.A. Fandey offers her general classification of blended learning models based on such criteria as changing the format of the course, changing the initial content of the course, changing the percentage of time allotted for classroom studies, independent work, and control throughout the educational process [Fandey, 2011]. According to V.A. Fandey, three models of learning can be distinguished: a Supporting Model, a Replacement Model, and an Electronic Educational Consulting Center Model.

Based on the experience of teaching during COVID-19, V.I. Blinov, E.Yu. Yesenin, and I.S. Sergeev developed their own models of blended learning, some of which are similar to the classification of Staker H., and Horn M. The researchers propose a classification of 12 models based on organizational and didactic characteristics [Blinov et al., 2021]: Blended Curriculum, Autonomous Individual Curriculum, Blended Individual Curriculum, Blended Discipline, Online Support, Online Laboratory, Face-to-face Tutorial / Face-to-face Examination Period, Autonomous group, Explanatory Class, Flipped Classroom, Blended Lesson, Blended Project/Blended Research.

We conducted a comparative analysis of the existing approaches to the classification of blended learning models and presented them in Table 2.

Table 2. Comparative analysis of examined classifications of blended learning models

C. Graham	M. Horn, H. Staker	V. Fandey	V. Blinov et al.
Activity Level	-Station Rotation - Lab Rotation -Flipped Classroom -Individual Rotation -Flex Model	Supportive Model Replacement Model	- Online laboratory - Online support - Face-to-face tutorial / face-to-face examination period - Autonomous group - Explanatory class - Flipped classroom - Blended lesson
Course Level	Rotation models Flex Model	Replacement Model	- Blended Discipline - Online support - Online laboratory

			- Face-to-face tutorial / face-to-face examination period - Blended lesson
Programme Level	Self-Blend Model		- Blended Curriculum - Autonomous Individual Curriculum - Blended Individual curriculum - Blended project / Blended research
Institutional Level	The Enriched-Virtual Model	Electronic Educational Consulting Center	Blended Curriculum

Research methodology and sampling

The research was conducted from February to May 2021. Since the study implied the collection of factual information about the transformations in the teacher's professional activity within blended learning and the correlation of the identified transformations with students' motivation for learning, we used qualitative and quantitative methods, namely an interview and an online survey. As a result, 28 semi-structured in-depth interviews were conducted with teachers of foreign languages from Moscow, Balashikha, Yoshkar-Ola, Yekaterinburg, Voronezh, and Mineralnye Vody, as well as an online survey of 300 K-9, K-10, and K-11 students, who were the students of the teacher-participants.

We used Convenience Sample, i.e. only the teachers who wanted to participate in the study took part in it. It helped to reduce influence and socially significant responses to a certain extent. The search for teachers was carried out through the professional community "Center for Blended Learning", which is on the social networking site "Facebook". The ratio of female (85%) and male (15%) teachers participated in TALIS-2018 is comparable to our study, which confirms the validity of our sample [Federal Institute for Educational Quality Evaluation, 2019].

The main criteria for selecting the teachers were:

- the use of "flipped classroom" and "station rotation" models,
- teaching foreign languages (we focused only on foreign languages to find detailed information about transformations in the teacher's professional activity),
- teaching K-9, K-10, K-11 students.

The sample of students for the online survey is related to the teachers who participated in the interview. The only criterion for inviting students to participate in the online survey was age, as the online survey was aimed at K-9, K-10, and K-11 students, i.e. students aged 15 and over, which did not require signing and collecting consent to participate in the online survey. After the interview, the teacher was sent a link to an online questionnaire which was then sent to the students.

Since participation in the interview was anonymous, we cannot correlate and determine the exact number of students of one particular teacher. Based on the received responses, we can assume that 7-11 students took part in the online survey from each teacher, which is reasonable, since based on the class division into groups and subgroups when studying individual subjects of the curriculum of various

educational organizations, foreign language lessons can be implemented in subgroups. On average, there are 7 to 15 students in a language group. According to this number of students in the language group, we assume that students in the online survey participated in the amount of one language group per one teacher.

The study consisted of the following stages:

- A preparation stage aimed at identifying a sample of interview informants and online survey respondents, preparing an interview guide and an online questionnaire, and conducting test interviews and an online survey.

When preparing the interview guide, we relied on the theory of hybrids, the theory of social constructivism, and took into account the classification of the components of the teacher's professional activity developed by Ch. Danielson, proposed in the Framework for Teaching Evaluation Instrument. In particular, we focused on the content and criteria for evaluating the design component of a teacher's professional activity. Consequently, we formulated questions related to personal and professional experience in designing blended learning in comparison to the traditional approach. The interview guide contains three key stages: acquaintance and warming up, focusing on the peculiarities of designing blended learning and completion.

The first part of the interview guide includes information about the interviewer and the procedure for conducting the interview, as well as introductory questions to make a general impression of the informant, their personality, and professional experience.

The second part includes several groups of questions:

- knowledge and understanding of blended learning and its models,
- reason for using blended learning,
- experience and duration of using blended learning,
- lesson design (questions about the peculiarities of designing blended learning in comparison with designing a traditional one to identify changes in the design component of the teacher's professional activity).

Once the interview guide was ready, a test interview was conducted with three teachers of the teacher training system to identify insufficiently understood questions, correct them, remove unnecessary questions from the guide, determine the duration of the interview, etc.

Interviews were done via Zoom video conferencing. The average length of the interview was 40 to 60 minutes (maximum 80 minutes). At the beginning of communication with the teachers, the interviewer asked the teachers for permission to record the interview. After the teacher agreed to the recording, they proceeded to the interview questions according to the interview guide. It is important to mention that not all of the questions in the guide were used, as the guide provided a redundant list of questions to help the teacher dive into the details to discuss a particular issue, if necessary.

Having determined the content of the interview guide, we began to develop an online questionnaire based on the Huang Q. questionnaire and aimed at studying the perception of students using blended learning [2016]. However, the questionnaire was significantly adapted to the Russian context. The questionnaire included 18 questions of open and closed types, as well as Likert scale questions. The questions can be presented in four groups: student preferences for various forms of learning in a blended course, the availability of an online learning system, the relationship between face-to-face and online learning, and the role of face-to-face and online learning.

It should be noted that we also considered the main characteristics of the theory of hybrids and the theory of social constructivism, therefore, questions on the peculiarities of using various teaching aids, active learning methods, active and passive roles of students, students' attitude towards independent

learning, ways of organizing the interaction of participants in the educational process, teacher's involvement in the learning process were added to the questionnaire. As a result, the online questionnaire contained 40 questions. The following types of questions were proposed:

- semi-closed questions (students had to choose from the proposed list or write their answer),
- open-ended questions,
- Likert scale questions.

The full version of the online questionnaire is available at: <https://forms.gle/JWWdBjQavP5tdBa27>. The online questionnaire questions can be divided into three groups:

• Questions aimed at getting a general impression of the students' experience of learning a foreign language. For example:

- What foreign language do you study?
- How often do you attend foreign language lessons?
- Why do you learn a foreign language?
- Do you like learning a foreign language? etc.

• Questions aimed at identifying students' attitudes towards "flipped classroom" and "station rotation" models. For example:

- Do you like to study a new topic on your own at home and complete assignments in advance, and ask questions, discuss, participate in various forms of work, and complete or check assignments in class? Please rate (0 - do not like it at all, 1 - very rarely like it, 2 - it is hard to say whether I like it or not, 3 - rather like than dislike it, 4 - like it, 5 - like it very much).

- Why do you like or dislike studying at different stations and constantly changing teaching aids? Indicate the degree of agreement with the following statements (0 - completely disagree, 1 - disagree, 2 - difficult to say, agree or disagree, 3 - partially agree, 4 - rather agree than disagree, 5 - completely agree)

- Why do you like or dislike the way the teacher teaches a foreign language in your class? Indicate the degree of agreement with the following statements (0 - completely disagree, 1 - disagree, 2 - difficult to say, agree or disagree, 3 - partially agree, 4 - rather agree than disagree, 5 - completely agree)

• General questions:

- Please choose how you would like to study. Indicate the degree of agreement with the following statements (0 - completely disagree, 1 - disagree, 2 - difficult to say, agree or disagree, 3 - partially agree, 4 - rather agree than disagree, 5 - completely agree)

- What is the ideal lesson for you?
- Gender
- City, etc.

It should be highlighted that the participation of the students in the online survey was confidential and was carried out without coercion from anyone. The online questionnaire had only three mandatory questions (grade, foreign language, and gender). The rest of the questions had no technical restrictions on providing answers. The students could answer the questions they wanted to answer. Fortunately, the students answered almost all the questions.

• **The stage of the research** included interviews with the teachers of foreign languages and an online survey of K-9, K-10, and K-11 students.

• **The stage of data processing and interpretation of the obtained results**

We used the thematic coding method [Strauss, 1990] to analyze the obtained interview data, for an online survey results analysis we carried out a correlation analysis in SPSS.

In the process of using the thematic coding method, teachers' answers were analyzed sequentially in two stages to search for thematic statements. In the first stage, we read the entire script of the interview to form a general understanding of the informant's answer and then conducted decontextualization, i.e. divided the text of the interview into smaller semantic units. Semantic units are understood as a set of sentences or paragraphs containing information related to each other. In the second stage, coding was carried out according to predetermined categories. The semantic units were coded into categories and subcategories were determined during the analysis of the scripts. All subsequent ideas were compared with the previous ones, and if they were similar or suited to any previous one, then they were assigned one of the available codes. In case of a new idea, a new code was assigned. Quotes from interviews were used to illustrate and clarify the main codes.

The interviews turned out to be quite interesting, most of the teachers enthusiastically shared their experience of teaching in a blended learning environment. The interviews were conducted remotely via Zoom. The duration of the interview ranged from 30 to 80 minutes, depending on the interest and capabilities of the teachers.

Based on the results of the analysis of the interviews, groups of transformations were identified in the design component of the professional activities of teachers, namely the changes in the:

- responsibility of the teacher and students for the educational process and outcomes,
- relationship between teachers and students,
- organization of the educational process,
- selection of teaching means and content.

The analysis of the students' answers in the online survey made it possible to determine the factors that contribute to the learning of foreign languages, and to correlate changes in the teacher's professional activity caused by using the "flipped classroom" and/or "station rotation" models of blended learning with students' motivation.

Research results

Before presenting and interpreting the interview results, we would like to note that the obtained results summarize the experience of teachers in using the "flipped classroom" and/or "station rotation" models since some teachers mainly use the flipped classroom model, others use the station rotation model, some of them use both. During the interviews, the teachers described their experience of using the models, so the identified transformations in the teacher's professional activity cannot be presented concerning a specific model. The results are presented as a generalization of the experience of applying both models.

The interview results are described in the following logic: first of all, the socio-demographic portrait of teachers is indicated (age, teaching experience, foreign languages), then the factors that contributed to the use of blended learning, the barriers that teachers face when using blended learning models, and the identified groups of transformations in the design component of the teacher's professional activity are outlined; further, individual changes in each group are described.

First, let us present a socio-demographic portrait of the teachers who took part in the interview. In terms of gender characteristics, 82% of the informants are female, and 18% are male. As far as the

correlation with the results of TALIS-2018 is concerned, it can be seen that the ratio of female (85%) and male (15%) teachers is approximately the same which confirms the validity of our sample to a certain extent [Federal Institute for Educational Quality Assessment, 2019].

Most of the informants (21.4%) belong to the age group of 40-44 years old, 14.3% of the informants are 25-29 years old, 14.3% belong to the group of 45-49 years old, 14.3% belong to the group of 55- 59 years old, 11% belong to the group of 30-34 years old, 11% of teachers belong to the age group of 35-39 years old, 7.14% - 50-54 years old, 7.14% - 60-64 years old.

According to the foreign language taught, it was determined that 82% of the respondents are English teachers, 19% teach two foreign languages, 4% are French teachers, and 18% have an additional administrative position.

An analysis of the teaching experience of the teachers showed that most teachers (21.4%) have been teaching for 10-15 years, 17.9% of teachers have been teaching for 5-10 years, 17.9% for 25-30 years, 14.3% have been teaching for 15-20 years. years, 14.3% - 20-25 years, 10.7% have been teaching for 30-35 years, and 3.6% have teaching experience of 3-5 years.

The analysis of the interviews has shown the following factors influencing the use of blended learning models:

- blended learning as an educational solution during the spread of the coronavirus pandemic,
- school participation in projects related to the active integration and use of digital instruction tools,
- developing students' independent study,
- motivating students to learn,
- reducing academic dishonesty and shaping a learning consciousness in students,
- allowing a collaboration model (teacher and student are equal),
- using different instructional tools,
- blended learning as a need for individualization of learning,
- inadequacy of traditional means and approaches to learning.

Teachers faced a number of barriers when integrating blended learning models into the educational process. On the one hand, these barriers contributed to their professional development and further use of “flipped classroom” and “station rotation” models. On the other hand, they led to the rejection of the use of “flipped classroom” and “station rotation” models in favour of “not complicating” their professional activities. These barriers can be divided into four groups:

Blended learning rejection:

- the unwillingness of the school teaching staff to accept innovations,
- lack of support from the educational institution's administrative staff,
- non-acceptance of a new form of interaction and organization of learning by students.

Independent work:

- the unwillingness of students to take responsibility for independent study,
- insufficient skills of students for independent study,
- students' parents' rejection of the students' independent study.

Workload:

- more workload while designing a lesson using the “flipped classroom” and “station rotation” models in the early stages compared to designing a traditional one,
- lack of knowledge and experience of using flipped classroom model and inconsistency with expectations,

Technical issues and lack of skills in using digital educational tools:

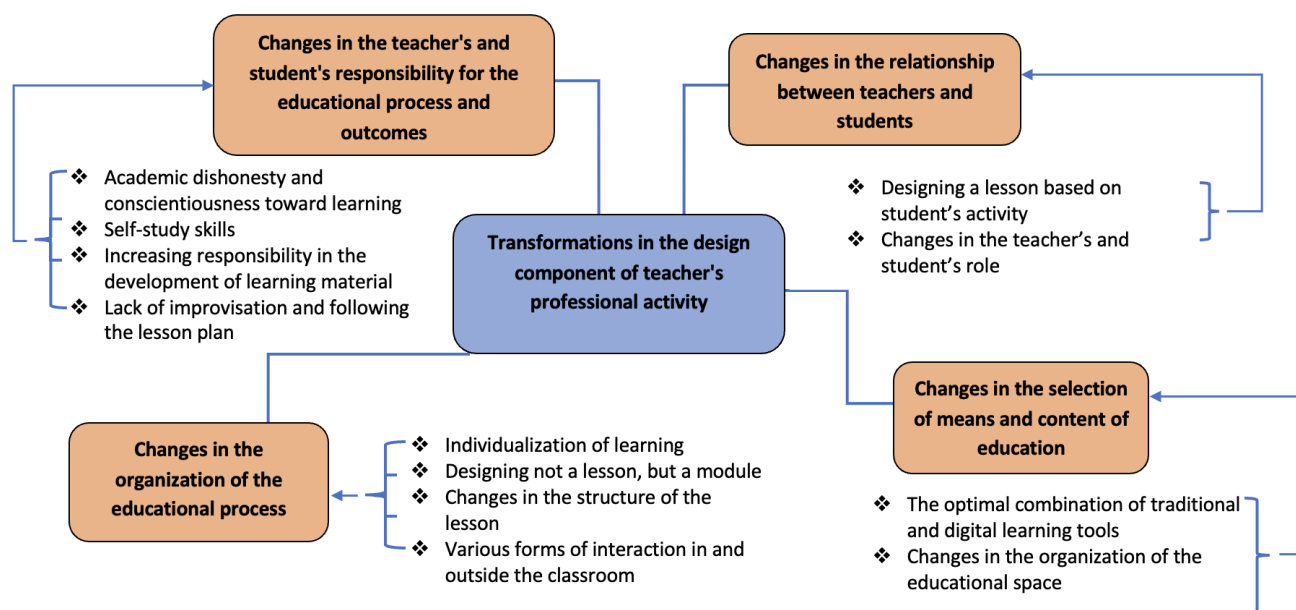
- absence/insufficiency of material and technical support at school/home, etc.
- lack of skills in the use of digital educational tools among teachers and students.

As a result, teachers are faced with the choice of continuing to optimize teaching or returning to familiar and proven means of teaching which allows them to stay in their comfort zone. This highlights the topical issue of accepting or not accepting educational innovations by teachers. As I.A. Zimnyaya claimed, the adoption of innovations is a complex process which depends on the state of pedagogical consciousness, the value setting of being a teacher, and the definition of goals and motives for using this innovation [Zimnyaya, 2000].

It is also important to mention that during the interviews, most teachers expressed interest in advanced courses devoted to the development of their skills in using blended learning models and digital educational tools.

An analysis of teachers' interviews enabled to identify the following groups of transformations in the design component of teacher's professional activity (Fig. 1):

Fig. 1. Transformations in the design component of teacher's professional activity



As teachers noted in interviews, designing a blended lesson requires following several conditions that lead to transformations in the design component of the teacher's professional activity, which include:

1. Changes in the teacher's and student's responsibility for the educational process and outcomes. When designing blended learning, the teacher's vision of the degree of responsibility of students and their own changes. The teacher's level of responsibility for the development of the learning material increases, while the student's level of responsibility for achieving educational outcomes goes up.

- Academic dishonesty and conscientiousness toward learning. In the interviews teachers emphasized that the use of blended learning models contributes to the reduction of academic dishonesty and the development of conscientiousness for learning.

“... it solves the problem of student's motivation because such planning provides students with understanding of why they are learning, at least the teacher takes explicit steps ... even if the teacher

themselves may have difficulty in determining why this or that topic is needed, why this or that educational experience is needed, we still lay down this moment and discuss it with students. For what reason? How can you [students] use it in your life?"

- Independent study skills. Teachers reacted differently to the questions related to students' independent learning but emphasized that blended learning helps them develop these skills.

"Teachers, as a rule, underestimate students, so I think they are afraid to give them an assignment, or they are afraid that parents will suddenly say what kind of independent study is. No, students are very fond of [independent learning] it all happens under the guidance and monitoring of the teacher. When students see the result, that they memorized something so quickly, or they can do this, even with mistakes, they want to study further and not just pass it. Grades are already fading into the background or third plan, probably ... "

- Increasing responsibility in the development of learning material

The use of models increases the responsibility of teachers for the development of learning material and educational space. If a traditional lesson provides a teacher with the opportunity to correct or change the material and teaching method, within blended learning models such an opportunity is absent or not always available. For example, at the stages before and after the lesson in a flipped classroom, this possibility is not available due to the asynchronous mode since the student can start studying the material at a convenient time for him. For this reason, special attention is paid to logic, sequence, and principles for developing tasks and instructions.

"... you need to think over both the task and direct instructions, literally every word in the instructions needs to be thought through ... if each of them understood correctly, what I want from them [students]. If there is misunderstanding, then everything will be useless"

- Lack of improvisation and following the lesson plan

"I would say that planning is getting more important. If you give a ready-made array of information, you cannot improvise in the lesson if you didn't plan something. If I, for example, developed a bad exercise, I can come to the lesson and improvise, I can say, let's find mistakes in this exercise. If it's a flipped classroom, it's just a bad exercise. You can't work with it because the students just got the incorrect assignment. You can't vary the forms of interaction if you have not designed it. The teacher has more work, it takes more time to make a good lesson"

2. Changes in the relationship between teachers and students

- Designing a lesson based on student's activity

According to teachers, they mostly focused on their activity while preparing for a traditional lesson. In contrast, while designing a blended lesson, teachers concentrate on the student's activity.

"When there was a traditional lesson, I focused more, probably, on my activity, I [concentrated on what] I should explain to them very clearly ... To be honest, I thought less about how they perceive what I explain... It seemed to me that I explain clearly ... Lately ... I really became very interested in the problems of how a child perceives ... When I prepare for a lesson, unintentionally questions begin to arise in my head that a student can ask"

- Changes in the teacher's and student's role

In a traditional lesson, usually, a teacher transmits the ready-made material, and students listen and perceive it as passive recipients. In turn, a blended lesson is designed based on the understanding that each student is an active participant. It requires taking into account students' interests, abilities, and capabilities. The importance of changing the role of the student, considering their opinion is also mentioned by E. Solovova, who claimed that teacher's professionalism is manifested in ensuring the necessary freedom of choice for students and leading them along the right path [Solovova, 2002].

“It's great when children are involved in this process ... I had such a practice when older children prepared an explanation of grammatical material for younger children. They recorded videos ... Here we implement many methodological moments, i.e. repeating and working out of the material ... I try to put children in an active position in creating their own resources, i.e. they can develop tests, videos, questionnaires, and interactive tasks... Interest is warmed up when the child understands his importance in the lesson, and that he shares responsibility with the teacher.

3. Changes in the organization of the educational process

- Individualization of learning

As teachers noted, individualization of learning is of crucial importance in blended learning.

“At first, this boy was silent... But now he is talking ... There is a standard, there is higher. I won't give him higher. For what? I assess them [students] absolutely differently, and I give the task to everyone differently ... I slightly change the task or the content of the text for it. I don't adapt the article for him, of course, but he works with this article in a different way, i.e. he needs to find, for example, the vocabulary that he absolutely understood without a dictionary ... This will give me the opportunity to understand, what else do I need to do with him?”

- Designing not a lesson, but a module

Some teachers said that they design not a lesson, but a learning module to get a holistic view of a learning path.

“I definitely have a map of the learning module. In turn, I know that in 6-7 lessons my students will be able to do this and that, will be able to apply the acquired educational experience. I will check this through a task, according to particular criteria. Thus, I design lessons and discuss them with students.

- Changes in the structure of the lesson

Unlike a traditional lesson, a blended lesson does not have a strict structure and rigid steps that must be followed. The stages of a blended lesson may vary, be duplicated, or be excluded from use.

- Various forms of interaction in and outside the classroom.

Within blended learning, teachers use various forms of interaction, and actively use the resources of virtual classes and messengers.

“If this is a consolidation of the material, I really love when students give feedback to each other according to already known criteria ... [If control] my most important rule is that everything that is controlled should be recorded somewhere, i.e. if a person utters a monologue, then I ask to record it. If this is a dialogue, then it can be recorded on video or using the Flipgrid application. My students sometimes record dialogues there, and then I check them. This is such a social network ... If this is a letter, then [I request to write it] in a Google document and attach it to Google Classroom”

4. Changes in the selection of means and content of education

- Changes in the organization of the educational space

Within blended learning, the understanding of the educational environment is changing, i.e. expanding through online educational platforms (Google Classroom, Showbie, Moodle, etc.). Teachers use ready-made resources or create virtual spaces where they accumulate learning materials for students to study on their own and/or accompany students.

“To create videos, for example, I use Explain everything... Then I upload it all on YouTube... Basically, I have a course. It is not finished, to be honest, now I am lack of time due to the new position. [Moreover,] our school has iTunes U... As for the survey system, it's Quizlet, Kahoot, and Socrative, i.e. there is a huge amount of resources that allows you to implement this”

- The optimal combination of traditional and digital learning tools

It should be emphasized that within blended learning, teachers actively use both traditional learning tools and new digital tools. The online environment and digital tools do not replace traditional ones but complement them. As a rule, the digital component is used by teachers to optimize their activities and increase students' motivation for learning.

“There is one pretty good book "Gateway"... Besides, I'm just looking at something all the time and looking for something that suits my topic. Well, firstly, we are also slowly moving away from TED Talk, sometimes we use it. We read something extra, listen to podcasts, and watch some videos, and lectures ... We use Instagram actively, though we don't use Twitter, Instagram is used frequently. If someone says something in stories, then we also analyze it to make it livelier”

We obtained the following results after analyzing the data from the online survey. 300 students from the indicated schools and cities participated in the online survey. Since students may or may not have technically answered all questions, we cannot fully and correctly determine the number of students studying in a certain school.

The distribution of students based on gender characteristics showed that 65.4% of students were female and 34.6% were male. It was revealed that students mostly learned English, but some students learned two foreign languages.

In terms of class attendance, the majority of the students reported that they attend all foreign language classes (67%), a small part of students attends most of the lessons (31.3%), and a few students rarely attend classes (1.7%).

The analysis of the students' answers related to how much they like to attend foreign language lessons showed that about a half of the students really like attending lessons (47.6%), some like it more than they do not like attending lessons (34%), 11.6 % - partially like attending lessons, 1.3% noted that they do not like attending lessons and 1% of the students do not like attending foreign language lessons at all.

Having found out how much students like to attend foreign language lessons, we tried to determine the factors that influence the motivation of students to attend classes. According to the students' answers, it turned out that there are several factors that contribute to their desire to attend foreign language lessons. Let's consider some of them:

- desire to know a foreign language and use it while traveling (mean score 4.28, standard deviation is 1.28),
- enjoying the way the teacher conducts the lessons (mean score 3.96, standard deviation is 1.39),
- the desire to watch films in a foreign language (mean score 3.82, standard deviation is 1.44),
- knowledge of a foreign language will help to make new acquaintances (mean score 3.75, standard deviation is 1.5),
- I like learning foreign languages (mean score 3.73, standard deviation is 1.44),
- using various tasks in different forms: independently, individually, in pairs, groups, etc. (mean score 3.6, standard deviation is 1.55).

In addition to the above-mentioned factors, the motivation for attending classes is the desire of students to use a foreign language in their future professional activity. Also, some students noted the importance of the use of various digital tools, active teaching methods (discussions, communication in a foreign language, etc.), and the opportunity to study independently. Considering these factors, we can see that motivation is mostly influenced by the personal needs of students, and not so much by the methods and means of teaching used during the lessons.

Having identified the factors that motivate students to learn, we also tried to determine if there is a correlation between how much they enjoy attending lessons and the use of the “flipped classroom” and “station rotation” models. It was found that there is a significant correlation between the use of the flipped classroom model and how much they like to attend classes ($r=0.290$; $p=0.001$), as well as between working at different stations and how much they like to attend classes ($r=0.194$; $p=0.001$).

According to the students' answers, it was revealed that in the lessons within the flipped classroom, paper books, notebooks, paper sheets, pens, smartphones, tablets, interactive whiteboards, online applications, video lessons, a blackboard with a chalk or a marker as the main ones are often used.

74% of the students noted that paper books are often used.

45% of the students noted that e-books are often used.

75% of the students indicated that they often use notebooks, sheets, and pens.

33% of the students reported that they often use whiteboards in the classroom, while 44% of students reported using often interactive whiteboards.

42% of the students mentioned that they often use online whiteboards and interactive sheets, and 50% often use various online tests and applications.

19% of the students often use laptops/computers in the classroom, and 57% use tablets and smartphones.

32% of the students noted that they often use video lessons in their lessons.

Outside the classroom, students often use paper books, notebooks, paper sheets, pens, handouts, laptops, tablets, smartphones, and various applications. Some students noted that when working independently outside the classroom, they can sometimes use ready-made homework manuals.

65% of the students noted that they constantly use paper books at home to prepare for the lesson.

35% of the students indicated constantly using e-books.

72% of the students indicated that they often use notebooks, sheets, and pens.

13% of the students answered that they often use a whiteboard outside the classroom, and 18% of the students indicated that they often use the online whiteboard and interactive sheets.

24% of the students often use laptops/computers outside the classroom, and 70% - tablets and smartphones.

32% of the students noted that they often use video lessons, 44% of the students constantly use various online tests and applications, and 16% of them use Moscow Electronic School resources.

16% of the students indicated that they often use ready-made homework manuals when preparing for a lesson.

Comparing the data on the frequency of teaching aids' use in and out of the classroom, we see a difference in the frequency of the use of these facilities. These data may allow us to assume that students mainly use traditional teaching aids (paper books, notebooks, blackboards, etc.). For example, as noted by more than 70% of the students, in and outside the classroom they often or constantly use paper books and notebooks. Digital learning tools are integrated, but not widely enough. In particular, we can observe that the use of digital educational tools in the classroom prevails in comparison with the extracurricular activities of students. For example, in the classroom, when implementing the “flipped classroom” model, teachers often use e-books (45%), interactive whiteboards (44%), online whiteboards and interactive sheets (42%), online tests (50%), tablets/smartphones (57%), while outside the classroom the use of some teaching aids is less: e-books (35%), online whiteboards and interactive sheets (18%), online tests (44%). However, tablets/smartphones are used more often outside the classroom (70%).

The students' answers revealed that the following actions are predominantly performed by the students in the lessons within a “flipped classroom” model:

- 58% of the students often complete assignments on their own.
- 56% of the students often work in pairs or groups.
- 37% of the students often or constantly ask a teacher questions about the assignment.
- 30% of the students ask questions about a topic they have studied on their own, while 36% of the students do not or rarely ask a teacher about a topic if they have studied it on their own earlier. Independent study of the material may contribute to a better understanding of the topic and reduce the number of questions.

- 23% of the students indicated that they often experience difficulties in independent study, while 36% of them indicated that they do not or very rarely face difficulties.

- 22% of the students often search for explanations of a new topic on the Internet, which may indicate, on the one hand, the interest of students in a detailed study and/or consolidation of the topic, and on the other hand, it may signal the insufficiency of the material developed by the teacher for students.

- 41% of the students indicated that they often use digital technologies in the classroom, while 55% of the students use them often or constantly at home.

Because the flipped classroom involves high student independent study, we also asked students how much they enjoy independent study. Students evaluated their preferences on a five-point scale, where (0 - do not like at all, 1 - very rarely like, 2 - it is hard to say whether I like or dislike, 3 - rather like than dislike, 4 - like it, 5 - like it very much). The results of the survey revealed that 44% of the students like or really like independent work, 23% of them like it more than they dislike it, for 25% it is hard to say whether they like or dislike independent work, 8% of the students do not like it at all.

The analysis of students' answers allowed us to identify why students like or dislike the independent study of the material. The results are the following:

39% of the students stated that they like independent work because it contributes to the formation of a more responsible attitude to learning.

37% of the students noted that it helps to better understand the topic.

44% of the students mentioned that it allows them to feel more independent, and 45% of the students feel more confident and comfortable.

61% of the students indicated that they like studying the material on their own, as it allows them to control the pace of learning, take breaks and have a rest if necessary, 54% of the students emphasized that it allows them to choose the study time that is convenient for them.

45% of the students can parse mistakes and better remember the material thanks to independent study.

37% of the students noted that they like independent work because in the classroom they can discuss more, and 49% of the students participate in debates and other activities.

50% of the students indicated that they like independent study because due to independent work, they can think and study the topic, and there is no need to copy the completed assignment from the blackboard.

However, some students do not like independent study of the material. For example:

22% of the students noted that they do not like studying the material on their own since they make more mistakes.

63% of the students indicated that they do not like independent work because they enjoy when they learn new material with a teacher.

52% of the students prefer doing tasks in the classroom after studying a new topic with a teacher for better understanding of the topic.

19% of the students noted that they do not like independent work, as they prefer to copy the completed task from the blackboard than to think and do it on their own.

It should be emphasized that 77.6% of the students noted that they like to study at different stations, while 10.4% do not like it. When students were asked “To what extent does studying at different stations affect their desire of attending classes?”, 67.7% of them answered that learning at different stations has a positive effect.

Having determined how much the students liked the implementation of the “station rotation” model, we asked the students why they like it. The analysis of the responses showed that:

51.3% of the students like it because of the variety of types of activities.

56% of the students like it because of different teaching aids, and since it is interesting and not usual.

44.6% of the students like it because students do not get tired.

51.3% of the students like it because they learn to manage their time.

52.6% of the students like it because of the opportunity to study for results.

53.6% of the students noted that they like to work at different stations because they find this activity useful.

57% of the students like it because it uses both paper books and new technologies.

54.3% of the students like it because of the possibility of independent and group work.

The students had to clarify how much they like to work at each station, and what exactly they like about working at each station. It was found that 80.4% of the students like to study at a teacher-led instruction station due to the following reasons:

60% of the students noted that they like it because of the opportunity to gain new knowledge and interact with other students.

54.3% of the students like it because of the quick immersion in the topic.

45.6% of the students like it because the time limit helps to keep their attention and quickly study the topic.

60% of the students noted that they like it because of the opportunity to ask whether something is correct or wrong, to discuss and form their opinion.

62.3% of the students like it because they can answer questions from other people if needed.

50% of the students noted that they like it because of the opportunity to learn how to use learning materials.

78.9% of the students like to study at the online learning station due to the following reasons:

61.3% of the students like it because they like digital technologies.

61% of the students like it because of unusual and interesting tasks.

58.3% of the students noted that they like it because of the possibility of changing activities.

81.1% of the students like to study at the independent study station due to the following reasons:

38.3% of the students noted that they like it because of the opportunity to independently study the topic and complete tasks, while 19.6% of them do not like studying at this station because of this reason.

52% of the students like it because of the possibility of group work, while 32% of the students partially like it, and 11% of them do not like it.

40% of the students like to study because of the opportunity to become independent, 37.6% of the students partially like it, and 16.6% of the students do not like it.

44.6% of the students like it because in addition to the paper books and online tasks, students understand the topic better, 33.6% of the students partially like it, and 16% of the students do not like it.

A correlation analysis between the transformations in the teacher's professional activity and the students' motivation for learning enabled to define some significant correlations.

According to the teachers' responses, the use of blended learning models allowed them to reduce academic dishonesty and form conscientiousness toward learning. However, the results of the online survey do not allow confirming the validity of this statement since 16% of the students noted that they often use ready-made homework manuals when preparing for a lesson, 41% of the students use it sometimes, 43% of the students do not use it, i.e. about a half of the students use ready-made homework manuals, a half tries to complete the tasks on their own. On the other hand, as stated by some students, blended learning helps them form a conscious attitude toward learning. 43% of the students emphasized that due to independent study of the material, they better understand topics and develop a more responsible attitude to learning. In this regard, it is worth mentioning that the correlation analysis of variables associated with the responsible attitude of students toward learning and the degree of mastering the topic by students made it possible to identify a significant relationship ($r=0.807$; $p=0.001$). It allows us to conclude that a more responsible attitude of the student toward learning contributes to better mastering of the material. There is also a significant correlation between independent learning and the formation of a more responsible attitude to learning ($r=0.757$; $p=0.001$). This allows us to conclude that the more students study the material on their own, the better they will understand the subject and will form a more responsible attitude to learning in general. It is important to emphasize that about 40% of the students mainly use the material proposed by the teacher, and 32% of the students study additional information on the Internet (YouTube, TikTok, etc.) to understand and consolidate the topic. This may indicate that the materials proposed by the teacher meet the interests and needs of the students.

As the teachers claimed, the desire and skills for independent work of the students are important in blended learning. The teachers emphasized that some students are not fond of independent study, while others do not have sufficient skills for it, which is one of the barriers to the implementation of blended learning models. In turn, we found a slight contradiction, as 67% of the students noted that they liked independent study in general, and 70% of the students would prefer the initial independent study of the material without a teacher outside the classroom, and discussion, and active learning in the classroom with a teacher.

The changing role of students is also of paramount importance. Students stop being passive and become active participants in the learning process. Thus, attention is paid to the activity of the student in the educational process. For example, teachers use a variety of teaching techniques and methods, engaging students, which also contributes to the development of their soft skills. According to the students' answers, 48% of them would like to see more active work in the lessons, 61% of the students expressed a desire to change activities during the lesson instead of the traditional perception of the material from the teacher, 64% of the students like to work in groups and interact with each other while studying the material. At the same time, 62% of the students noted that they would like the teacher to explain the material to them. As students' responses demonstrate, there is still a need for both traditional forms of interaction with the teacher and innovative ones. Thus, this need further emphasizes the

relevance of using the “station rotation” model, which allows for optimally combining and varying the roles of students and the forms of interaction between the teacher and students in the classroom.

Teachers stated that they use different learning tools and types of tasks based on the blended learning model. 63% of the students indicated that they like it when a teacher uses different teaching aids, 64% of the students indicated that they like the use of ICT in the classroom, and 11% of the students do not like the use of ICT. 63% of the students like doing creative tasks, and 68% of them like it when tasks allow them to think and reflect. Correlation analysis of variables associated with the use of digital learning tools and interesting types of tasks revealed that there is a significant relationship between digital learning tools and interesting tasks ($r=0.571$; $p=0.001$), which allows us to conclude that students like interesting tasks using ICT.

It should be emphasized that the constant factors influencing the interest in learning and the desire of students to attend classes are such factors as the atmosphere in the classroom, the personality of the teacher, and the feeling of being perceived as an individual by the teacher. As shown by correlation analysis, the effectiveness of using various teaching aids and types of tasks is manifested in the presence of a positive atmosphere in the classroom ($r=0.724$; $p=0.001$). In addition, we found that the use of various learning tools and types of tasks is effective when students feel good in the lessons ($r=0.755$; $p=0.001$) and when students can think and reflect in the lessons ($r=0.711$; $p=0.001$). Summarizing these data, we can remark on the low efficiency of using various teaching tools and task types, without a positive atmosphere in the educational space.

Thus, we can see that the use of a flipped classroom model can help the teacher to individualize the learning process due to the large amount of students' independent work. However, as students note, direct contact with the teacher remains significant. Despite a positive attitude toward the independent study of the material, students emphasize the need for direct communication with the teacher, and discussion with them. This fact, in turn, actualizes the need to integrate the station rotation model into the learning process, which allows using different types of interaction with students at different stations (a teacher-led instruction station, a collaborative activities station, online instruction station).

We have developed two courses "Blended learning in the Russian school" and "Digital tools in the teacher's professional activity" based on the results of a study and the request of some teachers during the interview for advanced courses on using blended learning models and digital tools in education.

The first course is aimed at familiarizing teachers with the peculiarities of using blended learning models. The course contains not only significant theoretical material that contributes to the formation of an understanding of blended learning and its models but also an applied component in the form of seminars and individual support while integrating and implementing a certain model of blended learning. As a result, students will be able to independently implement blended learning models.

The second course is aimed at developing students' knowledge, skills, and abilities in designing and teaching, monitoring, and evaluating its effectiveness using modern digital educational tools.

Findings

In conclusion, it should be emphasized that the tasks of the study were accomplished. We have identified approaches to the definition of the concept of "professional activity of a teacher" and to the classification of the components of a teacher's professional activity based on the analysis of domestic and foreign literature. Thus, we have identified three key approaches to the definition of the teacher's professional activity: based on the leading goal of the activity: self-education or teaching others; based on multidimensionality: teaching as a competence, teaching as an art, teaching as an applied science, etc.; based on the place of implementation: in or outside the educational organization.

A comparative analysis of the components of a teacher's professional activity, proposed by Russian and foreign scientists, was performed. We have identified three key components (design component, teaching component, and reflective component).

In addition, the features of the design component of the teacher's professional activity within blended learning were studied and interviews with teachers of foreign languages were conducted. As a result, four groups of transformations were identified: changes in the responsibility of teachers and students for the educational process and learning outcomes, changes in the attitude of teachers towards students, changes in the organization of the educational process, changes in the selection of means and content of education. A correlation between transformations in the teacher's professional activity and the motivation of students to learn was established.

From the point of view of expressing transformations in the design component of the teacher's professional activity in his basic actions, we can note that at the level of learning goals, no changes were found, since the key goal of teaching foreign languages, the formation of foreign language communicative competence, remains unchanged. However, when formulating learning objectives, teachers, based on the activities of students, can offer more specific formulations. Transformations are taking place at the level of selection of content and teaching means since the use of the "flipped class" and "station rotation" models imply an optimal combination of traditional and digital educational tools, which affects the form and method of presenting educational material. The distribution of training tasks also differs from the traditional one because it depends on the chosen model. For instance, when implementing the "station rotation" model, the type of learning activity is associated mainly with the station at which the student is studying. At the online learning station, individual or group work can be carried out with the use of digital educational tools in a virtual classroom. Based on assignment reports, the teacher can identify the challenges students face and help students solve them. Supervised stations can have a traditional lesson, i.e. the teacher helps students study the educational material, whereas, at the independent work station, there can be individualized learning, allowing each student to focus on eliminating gaps in their own knowledge. This contributes to better assimilation and consolidation of the material. Within these models, more formative assessment prevails. It should also be noted that assessment is automated since it is mainly carried out using digital educational tools. Therefore, the abovementioned requires the teacher to design learning taking into account the features of blended learning models.

Moreover, the approaches to the definition of the concept of "blended learning" and the classification of blended learning models were analyzed, and the key stages of active interest in blended learning in Russia and abroad were studied. Two key approaches to the classification of blended learning models have been identified (didactic and organizational).

To eliminate the identified barriers to the integration and implementation of blended learning models and deficiencies in the knowledge and skills of teachers in applying the models, two advanced

courses have been developed. The courses are aimed at teachers interested in using blended learning models in school. The first course is "Blended learning in the Russian school", and the second is "Digital tools in the teacher's professional activity".

The research hypotheses were confirmed. As a result of testing the hypotheses of the study, the following conclusions were drawn:

1. The importance of designing learning materials and the teacher's responsibility for the developed material increases when using blended learning models since its correctness correlates with the productivity of independent study of material by students.

2. The use of the "flipped classroom" and "station rotation" models of blended learning helps students develop a more responsible attitude toward learning.

3. A variety of teaching means and content, forms of interaction, and individualization within the "flipped classroom" and "station rotation" models have a significant impact on student's motivation for learning within a positive atmosphere in the educational space (By a positive atmosphere, we mean goodwill, respect, attentiveness of the teacher to students, good mood, and encouragement of students).

4. Changes in the teacher's professional activity within blended learning are not only methodological. They are also conceptual ones since they require changes in the vision of teachers and students in the organization of the educational process.

Based on the results of the study the following problems were identified:

1. The importance of designing learning materials and the teacher's responsibility for the developed material increases while using blended learning models since its correctness correlates with the productivity of independent study of material by students.

2. A variety of teaching means and content, forms of interaction, and individualization within the "flipped classroom" and "station rotation" models help students develop a more responsible attitude toward learning and have a significant impact on students' motivation for learning within a positive atmosphere in the educational space (by a positive atmosphere, we mean goodwill, respect, attentiveness of the teacher to students, good mood, and encouragement of students).

3. Changes in the teacher's professional activity within blended learning are not only methodological. They are also conceptual ones since they require changes in the vision of teachers and students in the organization of the educational process.

4. Transformations in the design component of the teacher's professional activity are expressed in the responsibility of the teacher and students for the educational process and outcomes, in the relationship between teachers and students, in the organization of the educational process, in the selection of teaching means and content.

5. Factors facilitating teacher to use the "flipped classroom" and "station rotation" models include the inadequacy of traditional means and approaches to learning, teaching experience during the spread of Covid-19, school participation in projects related to the active integration and use of digital instruction tools, the possibility of development students' independent study skills, individualization of learning, increasing students' motivation for learning, etc.

It should be emphasized that an important result of the study is the development of advanced courses that contribute to the enhancement of teachers' skills in using blended learning models and digital tools. It is worth noting that the courses are developed taking into account the specifics of the Russian teacher's professional activity. The advantage of the courses is their comprehensive nature since the

courses contain a theoretical component and an applicable one. Courses allow us to form an idea of blended learning, the features of teaching within blended learning, etc. The courses do not negate the content of existing advanced courses but expand them due to their complexity.

Despite the merits of the study, there are also some limitations. The research limitations include the following:

1. Only teachers of foreign languages participated in the study. Initially, it was supposed to focus on one area to identify detailed transformations in the design component of a teacher's professional activity. However, the revealed transformations may be related not only to the activities of teachers of foreign languages but also to other subjects. The participation of teachers from other subjects would have broadened the obtained results. This may be the subject of future research.

2. The sample of teachers and students who participated in the study is not representative. Teachers work in Moscow, Balashikha, Yekaterinburg, Yoshkar-Ola, Voronezh, and Mineralnye Vody schools. It would be beneficial to increase the number of regions to get more extensive information about the transformations in the design component of a teacher's professional activity and to identify certain regional features (if any).

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