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BLOGGING AND USING A BLOG AS A MEANS OF DEVELOPING THE COMMUNICATION SKILLS OF PHYSICS TEACHERS

In the modern education system, it is impossible to imagine the learning process without using the Internet, which has become an indispensable tool for all subjects of education. At the moment, the participants of the educational process widely use modern technologies as a basis for the transfer and accumulation of knowledge.

In this regard, the technology of blogging and using an educational blog on the Internet is gaining popularity, which allows the teacher to plan the learning process more effectively, as well as summarize and evaluate its results.

Since blogs offer wide opportunities for communication between people united by common interests, it is advisable to use them as a means of developing communication skills. However, not every teacher today has the skills and knowledge in the field of information technology sufficient to effectively blogging and using an educational blog.

The purpose of this study was to determine the attitude of Physics teachers working in secondary education organizations of the Zhetysu region of the Republic of Kazakhstan to the need to blogging and using a blog as a means of developing communication skills. 116 Physics teachers took part in the study. The survey method was used in the study. When processing the results, the frequency of responses and percentages for each response are counted. As a result of the conducted research, it was revealed that the majority of teachers surveyed favorably relate to the blogging and using an educational blogs in Physics lessons along with traditional teaching tools. The necessity of conducting training seminars and courses on the blogging and using an educational blog at the level of educational organizations has also been identified in order for Physics teachers to form an understanding of the principles and methods of blogging and using a blog. The article also reveals the need to develop educational blog management strategies for teachers to understand how to integrate, use and maintain an educational blog in teaching Physics, as well as the effective use of time and effort when blogging. In addition, it is concluded that it is necessary to continue research on solving problems that teachers may have when blogging and using an educational blog as an additional tool in teaching Physics.

Key words: educational blog, communication skills, information and communication technologies, educational process, quality of education, teaching Physics, information learning tools.

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Физика мұғалімдерінің коммуникативтік білігін дамыту құралы ретінде блогты жүргізу және пайдалану

Қазіргі білім беру жүйесінде оқыту процесін Интернетсіз елестету мүмкін емес, ол барлық білім беру субъектілері үшін таптырмас құралға айналды. Қазіргі уақытта білім беру процесіне қатысушылар білімді беру мен жинақтаудың негізі ретінде заманауи технологияларды кеңінен қолданады.

Оқытудың танымал бағыты мұғалімге оқу процесін тиімді жоспарлауға, сондай-ақ оның нәтижелерін жалпылауға және бағалауға мүмкіндік беретін білім беру блогын жүргізу және пайдалану технологиясы болып табылады. Блогтар ортақ мүдделермен біріктірілген адамдар арасындағы қарым-қатынастың кең мүмкіндіктерін ұсынатындықтан, оларды коммуникативтік білікті дамыту құралы ретінде қолданған жөн.

Дегенмен, бүгінгі таңда білім беру блогын тиімді жүргізуге және пайдалануға жеткілікті ақпараттық технологиялар саласындағы дағдылар мен білім әр мұғалімде бола бермейді.

Осы зерттеуді жүргізудің мақсаты Қазақстан Республикасы Жетісу облысының орта білім беру ұйымдарында жұмыс істейтін физика мұғалімдерінің коммуникативтік білікті дамыту құралы ретінде блогты жүргізу және пайдалану қажеттілігіне деген көзқарасын айқындау болды.

Зерттеуге 116 физика мұғалімі қатысты. Зерттеуде сауалнама әдісі қолданылды. Нәтижелерді өңдеу кезінде жауаптар жиілігі мен әр жауап бойынша пайыздар есептелді.

Зерттеу нәтижесінде сауалнамаға қатысқан мұғалімдердің көпшілігі физика сабақтарында дәстүрлі оқыту құралдарымен қатар білім беру блогтарын жүргізуге және пайдалануға оң қарайтындығы анықталды. Сондай-ақ, физика мұғалімдері блогты жүргізу мен қолданудың құғидаттары мен әдістерін түсінуі үшін білім беру ұйымдары деңгейінде білім беру блогтарын жүргізу және пайдалану бойынша оқыту семинарлары мен курстарын өткізу қажеттілігі айқындалды. Сонымен қатар, мақалада мұғалімдердің физиканы оқытуға білім беру блогын қалай кіріктіру, пайдалану және қолдау керектігін түсінуі, сондай-ақ блог жүргізу кезінде уақыт пен күш-жігерді тиімді пайдалану үшін білім беру блогын басқару стратегияларын әзірлеу қажеттілігі анықталды. Оған қоса, мұғалімдердің физиканы оқытуда қосымша құрал ретінде білім беру блогын жүргізуі және пайдалануы кезінде туындауы мүмкін мәселелерді шешу бойынша зерттеулерді жалғастыру қажеттілігі туралы тұжырым жасалды.

Түйін сөздер: білім беру блогы, коммуникативтік білік, ақпараттық-коммуникациялық технологиялар, білім беру процесі, оқыту сапасы, физиканы оқыту, оқытудың ақпараттық құралдары.

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Ведение и использование блога как средства развития коммуникативных умений учителей физики

В современной системе образования невозможно представить процесс обучения без использования Интернета, который стал незаменимым инструментом для всех субъектов образования. В настоящий момент участниками образовательного процесса широко используются современные технологии в качестве основы передачи и накопления знаний. Набирающим популярность направлением обучения является технология ведения и использования образовательного блога, которая позволяет учителю более эффективно планировать процесс обучения, а также обобщать и оценивать его результаты. С развитием данной сферы произошла трансформация блога в средство межличностного общения и в массовую коммуникативную среду, обладающую интерактивностью, оперативностью, свободой высказывания. Тем не менее, не каждый учитель на сегодняшний день обладает навыками и знаниями в области информационных технологий, достаточными для эффективного ведения и использования образовательного блога.

Целью исследования – определение отношения учителей физики, работающих в организациях среднего образования области Жетысу Республики Казахстан, к необходимости ведения и использования блога в качестве средства развития коммуникативных умений. В эмпирической части исследования приняли участие 116 учителей физики, был использован метод анкетирования. При обработке результатов посчитана частота ответов. В результате проведенного исследования было выявлено, что большинство опрошенных педагогов благосклонно относятся к ведению и использованию на уроках физики образовательных блогов наряду с традиционными средствами обучения. Выявлена необходимость проведения на уровне организаций образования обучающих семинаров и курсов по ведению и использованию образовательных блогов для того, чтобы у учителей физики сформировалось понимание принципов и методов его ведения и использования. Также в статье выявлена необходимость разработки стратегий управления образовательным блогом для понимания учителями того, как интегрировать, использовать и поддерживать образовательный блог в обучении физике, а также эффективного использования времени и сил при ведении блога. Кроме того, сделан вывод о необходимости продолжения исследований по решению проблем, которые могут возникнуть у учителей при ведении и использовании образовательного блога в качестве дополнительного инструмента в обучении физике.

Ключевые слова: образовательный блог, коммуникативные умения, информационно-коммуникационные технологии, образовательный процесс, качество обучения, преподавание физики, информационные средства обучения.

Introduction

In the modern world where society is transitioning to the information type, information technologies and the ability to successfully use them both in everyday and professional activities are becoming increasingly valuable. The use of information technology should be carried out most correctly and effectively, especially when it comes to teachers. At the same time, in the conditions of modernization of education, teachers are required not only to know their subject at a high level, but also such skills as an individual approach to each student, effective implementation of communicative interaction with participants in the educational process, the use of the modern teaching methods and tools, including the active use of information and communication technologies, as well as competent presentation of the results of their teaching activities. In this regard, there is a need to use information technologies in the educational process that can develop the ability to communicate at various levels of social and professional life. At the same time, the teacher's blog arouse the interest as a means for creating educational products that allow implementing a teacher-student interaction system.

The teacher's blog is one of the important tools of the information space, which opens up a wide range of opportunities for the organizing the subject teaching. This tool is especially important for Physics teachers, since these tools not only contribute to the development of new knowledge, but also help to diversify the learning process and make it more fascinating.

Based on the analysis of modern electronic manuals and programs in Physics, it can be concluded that learning is becoming more dynamic, online, and electronic. The wide possibilities of the Internet, social networks and blogs for teaching set a new task for the teacher to use these services in the process of teaching students, developing information skills, the ability to interact effectively with the team and self-education.

Literature review

There are different opinions among scientists about the blogging and using an educational blog.

So, Deng & Yuen claim blogs foster emotion-laden and socially oriented individual expressions as well as reflective thoughts, improve the quality of learning and can be of great help in maintaining the

desired level of students' education (Deng, 2011: 441).

Farmer & Bartlett-Bragg note the importance of blogs as individual and aggregated online communication tools and argue that within sound pedagogical frameworks they can help to better applications of the technology in teaching and learning (Farmer, 2005: 202).

A study by Garza & Smith concluded that structuring reflexive thinking through blogging can contribute to understanding teaching and learning (Garza, 2015: 202).

A similar opinion was expressed by Fisher & Kim who noted that blogs functioned as a «thinking tool» that promotes professional development (Fisher, 2013: 142).

In another paper Deng & Yuen highlight the usefulness of blogs as their affordance for self-expressions and connecting dispersed groups (Deng, 2007: 193).

Many researchers have considered the problem of teacher involvement in the use of blogs in teaching and learning.

So, Kim noted the high activity of teachers in readiness to use such instructional technologies as podcasting and blogging (Kim, 2011: 632).

According to Luehmann, the way teachers use blogging will determine the extent to which they can benefit from this practice (Luehmann, 2008: 287).

A study by Top & Yukselturk & Fethi found that preservice teachers mainly used blogs to exchange information, and the authors also noted the importance of a sense of community of learning when using blogs for educational purposes (Top, 2010: 214).

Blogging can encourage active participation in the exchange of knowledge, its transformation and generation. A study by Sun found that, in general, teachers had a positive attitude to blogging as a support for their professional development and at the same time took into account the interests of the audience, choosing interesting, useful and interesting content for the audience (Sun, 2010: 369).

Another problem in the application of educational blogs is the interest of students. A study by Garcia & Moizer & Wilkins problem & Haddoud is devoted to this problem, according to which the use of blogs can increase the degree of assimilation of knowledge. At the same time, the authors note that it is necessary to take into account students' perception of the blogs benefits and how they used blogs earlier (Garcia, 2019: 61).

According to the results of a study conducted by Duarte, students found blogs useful for sharing knowledge and information related to the discipline, but despite this, they participated in regular and active posting with reluctance (Duarte, 2015: 103).

Hutchison & Wang emphasize that before introducing blogs into the educational process, it is necessary to take into account that not all students enjoy social networking and online response and that they have many different preferences about how they communicate (Hutchison, 2012: 273).

Thus, blogging can be actively used in education for knowledge management and organization of the educational process, exchange of opinions and consultations, archiving of didactic and analytical materials, etc.

The experience in this field is diverse, but the short history of blogging and using a blog and few studies suggest that blogs as a communication environment may find completely new areas of application in the future.

Materials and methods

The article contains the results of a survey of Physics teachers of the Zhetysu region on a specially designed questionnaire. The survey was simultaneous and anonymous.

To achieve the goal of the study, the analysis of psychological and pedagogical literature was carried out, pedagogical experience was studied and generalized, the method of psychological and pedagogical diagnostics, such as a questionnaire, was applied.

The developed questionnaire consisted of two parts. In the first part of the questionnaire, respondents had to specify their personal data, while the second section contained statements on the blogging and using an educational blog for the development of communication skills. The Physics teachers who took part in the survey expressed their degree of agreement with each statement.

A 5-point Likert scale was used to assess degree of agreement. The questionnaire contained the following degrees of agreement:

- 1 – Strongly agree;
- 2 – Agree;
- 3 – Undecided;
- 4 – Disagree;
- 5 – Strongly disagree.

All statements have equal weight.

The data was analyzed using simple percentages and frequency counts.

Results

116 Physics teachers from towns and districts of Zhetysu region took part in the survey.

Of the 116 respondents, 76,7% are women (89), 23,3% (27) are men.

The age of respondents varies from 21 to 60 (Table 1).

Table 1 – Age of respondents

Age	Frequency	Percentage
21-30	37	31,9%
31-40	39	33,6%
41-50	16	13,8%
51-60	24	20,7%
Total	116	100%

As can be seen from Table 1, the age of 65,5% (76) of Physics teachers who took part in survey is no more than 40 years old.

The results of the second part of the questionnaire contained the degree of agreement of respondents with each proposed statement regarding the blogging and using blogs for the development of communication skills.

So, 29 respondents (25%) strongly agreed, 31 (26,7%) agreed, 30 (25,9%) indicated that they had not decided, 12 (10,3%) disagreed, 14 (12,1%) strongly disagreed with the statement «It is impossible to exclude the conduct of an educational blog from the list of the most effective teaching and learning tools».

This indicates that most physics teachers do not deny the effectiveness of educational blogs in the educational process

Further, statement related to various didactic functions of educational blogs was formulated: «An educational blog can serve as a means of self-presentation, a blog portfolio indicates a teacher's high information competence». The following degrees of agreement with this statement were obtained: 42 (36,2%) respondents strongly agreed, 32 (27,6%) replied that they are agree, 20 (17,2%) found it difficult to give an answer, 11 (9,5%) disagreed, 11 (9,5%) strongly disagreed with statement.

According to the answers received, respondents associate blogging with the information competence of the teacher.

An educational blog is one of the forms of organizing effective interaction of the subjects of the pedagogical process, in this regard, it can be used to consolidate and maintain social ties, establish contact with students and their parents. So, teachers' opinions on the statement «The educational blog can be used to consolidate and maintain social connections, it helps to establish contact with students and their parents» were distributed as follows: 57 (49,1%) strongly agreed with this, 29 (25%) agreed, 17 (14,7%) indicated that they found it difficult to answer, 5 (4,3%) disagreed, 8 (6,9%) strongly disagreed with such statement.

According to the answers received, more than half of the teachers surveyed agree that blogs are useful in maintaining the communicative side of the teacher's activity.

The ability to share experiences and share knowledge is another important aspect of the blog. The blog allows sharing experiences and getting advice from other professionals. Knowledge sharing helps to improve the quality of the education and achieve common goals. Thus, 54 (46,6%) Physics teachers surveyed strongly agreed, 30 (25,9%) agreed, 16 (13,8%) undecided, 8 (6,9%) disagreed, 8 (6,9%) strongly disagreed with the statement «The blog helps to think, change, analyze problems that may arise in the work and also look for solutions and share experiences».

As can be seen, most teachers agree with these advantages of educational blogs.

The Internet and social networks have become an integral part of our lives. Both adults and children can get useful information from various blogs on topics of interest. Therefore, blogging for a teacher who wants to be aware of new trends in learning and develop in his profession, it will be an incentive to study new technologies, methods and approaches to teaching his students. Blogging is not only a prestigious hobby, but also an effective tool in the work of a teacher. To find out the teachers' opinion on this issue, they were offered the following statement: «Blogging is a prestigious hobby that allows escaping from monotonous work and gaining the interest and respect of the school audience». According to the results of the survey, the following answers were received: 33 (28,4%) strongly agreed, 34 (29,3%) agreed, 26 (22,4%) found it difficult to give an an-

swer, 9 (7,8%) disagreed, 14 (12,1%) strongly disagreed.

The modern constantly changing world is characterized by daily updating of information. In order to keep abreast of all events, a teacher needs to constantly monitor innovations not only within the framework of pedagogical activity, but also in general in various areas of public life. The reform of education indicates to the teacher the need for his constant professional improvement, which is due to the need to meet the requirements of the dynamic environment. Therefore, the need to improve professional competence is obvious. At the same time, one of the priority directions of professional self-improvement is the formation of the ICT competence of the teacher. In this regard, educational blogs can contribute to the development of ICT competence of a teacher. On this occasion, respondents expressed the following degrees of agreement with the statement «Working with a blog improves ICT competence. The author of the blog is constantly looking for new ideas and mastering new services»: 55 (47,4%) respondents noted that they strongly agreed with the statement, 29 (25%) agreed, 20 (17,2%) indicated that they undecided, 5 (4,3%) disagreed with the statement, 7 (6%) strongly disagree.

Thus, according to many of the teachers interviewed, the benefits of blogs in improving ICT competence are obvious.

Blogging, regular publication of relevant and interesting materials is a time-consuming process. In a blog, it is important to make creative decisions, use thoughtful ways to attract the attention of children and parents, be interesting to colleagues and skillfully use online learning tools. All this requires teachers to allocate a significant part of their time for blogging.

The respondents' opinions on this issue were as follows: 57 (49,1%) teachers strongly agreed with this, 27 (23,3%) indicated that they agreed, 15 (12,9%) undecided, 9 (7,8%) replied that they disagreed, 8 (6,9%) noted strongly disagreement with the statement.

So, half of the teachers surveyed fully agreed that it is necessary to allocate a lot of time and effort for a successful blogging.

The obtained results of respondents' agreement with the proposed statements are shown in Figure 1.

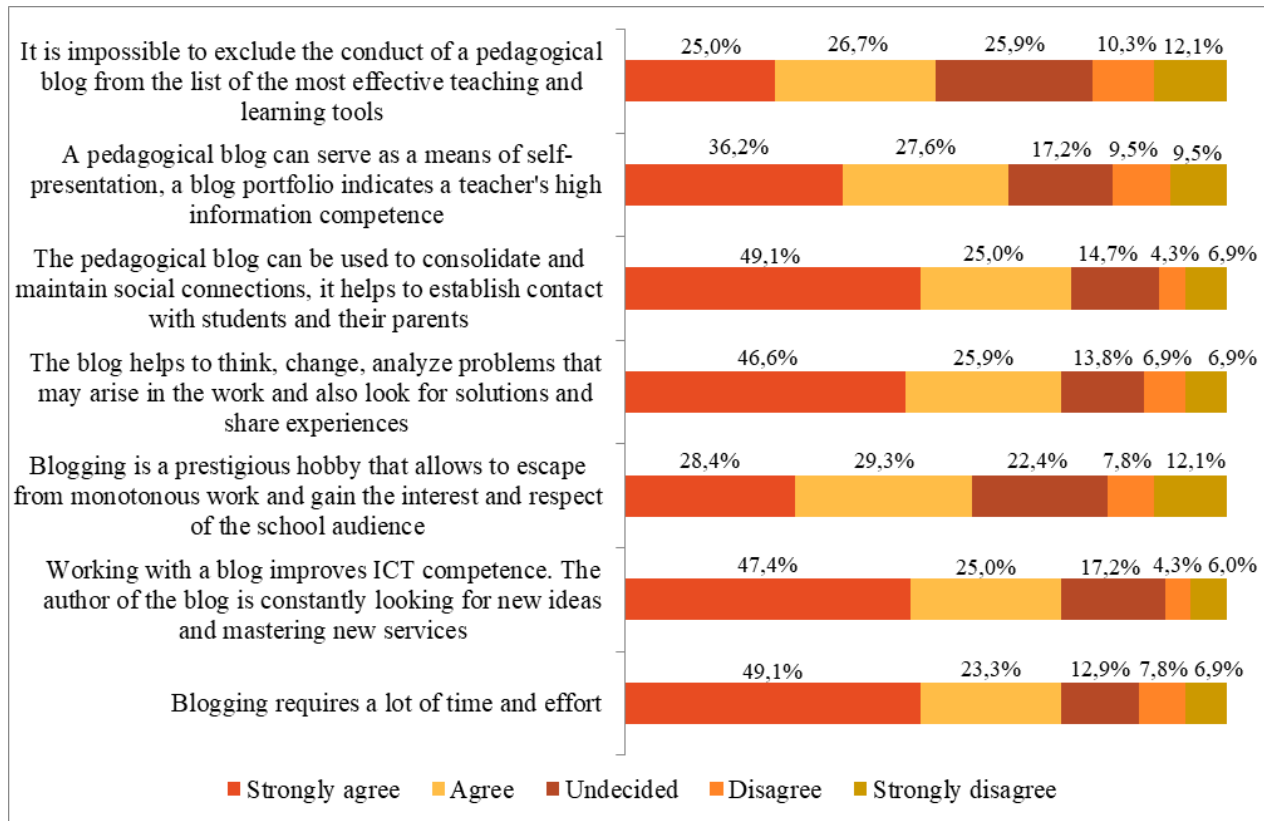


Figure 1 – The obtained results of respondents' agreement with the proposed statements

The results of the survey made it possible to conclude about the opinion of Physics teachers about the blogging and using blog as a means of developing communication skills.

Discussion

With the current level of information technology development, the need to integrate information and software resources into the educational process becomes obvious. Many modern studies mention new information technologies in the educational process, the basics of web technologies, the optimization of teaching subjects, the use of modern Internet resources.

We can assume that an educational blog is a universal learning tool that is suitable for all levels of education, will allow you to gain experience in the field of ICT technologies.

The fact that the use of blogs does not require special technical knowledge from the user, while allowing you to quickly publish information of any kind (text, graphics, audio and video files, animation, etc.), testifies to the simplicity of blogging and

using a blog, as well as the availability of blog technologies.

The blog has a user-friendly interface for reading and perceiving information, and also allows to publish information both using a personal computer and mobile means of communication.

Thus, the blog is best suited for use for didactic purposes, since it allows to store and classify the necessary and excessive educational information in any form (graphs, maps, drawings, photographs, videos), create open and closed communities to discuss problems and tasks, to implement group projects, to control the assimilation of educational information through online tests, surveys and discussions, reviews, etc. Educational blogs are useful for learning, accumulating new knowledge and developing skills (Singh, 2016: 44), facilitate the achievement of educational goals, taking into account the needs of both students and teachers (Martinez-Priego, 2015: 41).

Bloggng and using blogs is useful to support the educational process and it is easier for the teacher to control the learning processes of students using blogs. In addition, blogs play an important role in

communication, sharing and reflection (Han, 2013: 311).

Depending on the educational goals in teaching Physics, both individual and group blogs can be used for team projects (Sullivan, 2014: 390). It is also important to provide access to the blog to the parents of students. This contributes to the maintenance of social ties between participants in the educational process, ensures a communicative process with both students and their parents.

The theoretical and technological advantages of the blog allow to use it as an effective means to increase the exchange of knowledge with other teachers and, thus, to increase the level of professional development of teachers (Wang, 2011: 363).

The interactivity and dynamism of an educational blog, the ability to host many resources, such as videos, images, hypertexts, turns it into an alternative didactic resource for a teacher who intends to expand his/her teaching practice (da Silva, 2018: 190).

In addition, blogs can be used as an addition to Physics lessons and become a channel for mass popularization of science, as they are an easy way to publish information (Zúñiga, 2009: 214).

However, when blogging and using a blog in the educational process, the motivation of its subjects is important. At the same time, the student must be an active participant in the educational process, and the task of the Physics teacher is to ensure the subject-subject character of pedagogical relations (Kolly-Shamne, 2022: 38).

It is also necessary to take into account a number of difficulties that may arise when introducing blogs into the educational process. Such difficulties include unreliability of information, unavailability of the Internet, unpreparedness and unwillingness of the older generation teachers to use blogs (Chowdhury, 2020: 58). Such issues require a comprehensive study of ways to solve them.

In addition, teachers may have difficulty understanding how to integrate, use and maintain educational blog (Bartholomew, 2012: 19). In this regard, the development of blog management strategies should be taken as the basis for the use of blogs in teaching Physics.

Without a doubt, despite the obvious advantages of using a blog as a supplement to teaching Physics to improve students' understanding of the subject and improve the quality of teaching, an educational blog requires teachers to devote a lot of time and effort. In this regard, the teacher needs effective planning of blogging activities.

Conclusion

Today the Internet has confidently entered the life of educational institutions. Modern teachers not only use Internet resources, but also post their electronic materials online, participate in forums, webinars, interact with participants of the educational process using electronic resources.

Blogs are now of particular interest among educational Internet technologies.

Blogging and using a blog in the work allows teachers to work in an environment of network communication with students, parents, colleagues, thus improving the communication process.

As for the advantages of blogs for students, the use of blogs helps them to get more information on the topic being studied and increases interest in the learning process, since the novelty of technology is one of the motivating factors in learning.

Thus, the use of blogs opens up new opportunities for working in the classroom and beyond, whereas with the traditional organization of training, due to lack of time in the classroom, not all students have the opportunity to speak out and be heard. So, the blog provides an opportunity to individualize the training content.

The teacher's blog may indicate his/her competence, since in it the teacher describes and clearly demonstrates the methods used in the classroom. In addition, the blog is a platform for professional communication, thanks to which the teacher can improve his/her level by participating in discussions, sharing experiences and useful links with colleagues.

The results of the study allowed us to make the following conclusions:

- To improve the efficiency and quality of teaching Physics in the conditions of the education system of the Republic of Kazakhstan, it is necessary to use educational blogs along with traditional teaching tools;

- In order for Physics teachers to form an understanding of the principles and methods of conducting educational blogs, it is necessary to conduct training seminars and courses at the level of educational organizations on the blogging and using a blog in education;

- In order for teachers to understand how to integrate, use and maintain an educational blog in teaching Physics, as well as the effective use of time and effort when blogging, it is necessary to develop an educational blog management strategy;

- It is necessary to continue research on solving problems that teachers may have when using an educational blog as an additional tool in teaching Physics.

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