ICT LITERACY OF SECONDARY SCHOOL TEACHERS

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ABSTRACT

The article identifies the level of knowledge of general secondary school teachers in Uzbekistan on the use of information and communication technologies. There is also a survey of teachers of secondary schools in Bukhara region on the knowledge of information and communication technologies and an analysis of its results. The questionnaire also includes items to identify problems of teacher training. Opinions were expressed on measures to eliminate illiteracy of teachers in information and communication technologies. Opinions on professional development and retraining of secondary school teachers were expressed.

Keywords: Information and communication technologies, professional development, teacher literacy, ICT in teaching, ICT tools, general secondary school.

INTRODUCTION

Because independence has made the formation of a perfect man a priority of public policy [1]. This task can be performed by an experienced teacher who is competent in all respects. An educator must be well-versed in pedagogical and personal influences in order to change a person's personality and spiritual world. This requires a higher level of professionalism. Professionalism is the ability to skillfully organize all forms of education, to focus on the development of the individual's perfection, outlook, abilities. "Pedagogical skills can be improved to almost technical level. To do this, we need to have a strong and universal means of pedagogical influence, when we do not allow our pupil to reduce or disappear any negative or strong influence" - wrote A.S.Makarenko [2, 91-92].

President Mirziyoyev said: "We have set a goal to turn Uzbekistan into a developed country, and we can achieve this only through rapid reforms, science and innovation. To do this, first of all, we need to nurture a new generation of educated and qualified personnel who will emerge as enterprising reformers, think strategically. That is why we have started to reform all levels of education, from kindergarten to university.

In order to raise the level of knowledge, not only of the youth, but also of the members of our society, we need, first of all, knowledge and high spirituality. Where there is no knowledge, there is backwardness, ignorance and, of course, misguidance.

As the sages of the East say, "The greatest wealth is intelligence and knowledge, the greatest heritage is good upbringing, and the greatest poverty is ignorance!"

Therefore, for all of us, the acquisition of modern knowledge, true enlightenment and high culture must become a constant vital need. We need to acquire digital knowledge and modern information technologies in order to achieve development. This allows us to take the shortest path to ascension. Today, information technology is penetrating all areas of the world." They did not say it in vain.

The national training program addresses the issue of widespread use of computer science and information technology in the educational process. It also emphasizes the importance of training in the field of information technology and informatics, including the widespread introduction of Internet technologies in all areas.

Main Part
At present, the main factor in the development of information communication is the widespread use of ICT in various fields. The expansion of the use of ICT, the creation of information technology leads to the development of all spheres of life, including production, science, education, medicine and others, the rapid exchange of information, the processing of information in a short time, timely transmission to the source.

As in all areas of education, work has already begun on the digitization of education, ie the introduction of ICT in the educational process. However, the work done in this regard is not satisfactory. This is due to the low level of access to ICT in all areas of education, various sectors, and the lack of specialists to implement it in teaching.

At a time when the introduction of ICT in education is a challenge in itself, we face a major new challenge. It is a matter of skilled personnel who are able to use ICT tools in the classroom and use them wisely.

Although all schools in the country are equipped with teachers of computer science and information technology, even they do not have enough knowledge to inform the educational process, the use of ICT tools, the effective use of which to organize lessons. However, the introduction of ICT in education requires all science teachers to have relevant knowledge in this area.

The purpose of the introduction of ICT in education is to increase the level of mastery of learning materials by students, to develop skills to apply the acquired knowledge in practice. It is very difficult to organize lessons in general secondary school without the use of visual aids. Because when giving new information to a young child, it is necessary to give a clear idea about him.

RESULTS AND DISCUSSIONS
For example, if a geometric shape with four sides and four corners is called a rectangle, it is natural for students to form different ideas if we do not show a rectangle.

Many teachers face difficulties in selecting and presenting the material they need during the lessons. The use of ICT in primary school helps to solve these problems.

If we analyze the use of ICT in the classroom by general secondary school teachers, most teachers face the following problems with the use of ICT in the educational process for various reasons:
- Lack of ICT in general secondary schools;
- Lack of ICT literacy of teachers;
- Teachers do not have the skills to use ICT in the classroom;
- The audience is not ready to use ICT in education;
- Improper plan for the introduction of ICT in education;
- Opposition to the introduction of ICT in education;
- Inability to establish a link between teachers' ICT tools and curricula;

- Lack of time to effectively plan and learn skills;
- Transparency of results in electronic form;
- Lack of funding;
- Lack of teacher support;
- Doubts about the benefits of ICT in education;
- Lack of a model of teaching using ICT in teaching;
- Lack of guidelines and policies for the use of ICT in education;
- Lack of preparation of students for the use of ICT;
- Insufficient knowledge of teachers in their specialty;
- Lack of competence of teachers, etc.

The biggest task before us is to introduce ICT in education, to solve the above-mentioned problems, to improve the skills of teachers and to develop research in the field of informatization of society and education. If this problem is not given enough attention - the information required by the government, the introduction of ICT in education, the transition to digital technology will not be carried out satisfactorily. In my research, teachers, whose literacy has played a key role in the introduction and practical application of ICT in education, is important.

Therefore, an anonymous survey was conducted to determine the ICT literacy and professional development needs of secondary school teachers. The survey was based on the following items:
1. What is ICT?
2. Where do you use ICT in the classroom?
3. What ICT tools do you use?
4. What software tools to use?
5. When do you use ICT tools?
6. Your level of ability to use ICT tools?
7. What ICT hardware do you need?
8. What software do I need?
9. What computer programs do you use?
10. Do you use a global network?
11. What Internet services do you use?
12. Do you have an email, and on what site did you create it?
13. In what order do you want to improve and retrain?
14. What subjects or what do you want to study?
15. How many years do we want to improve the skills? Based on a questionnaire, 1,500 school teachers who wished to improve their skills at the Bukhara Regional Center for International Development were anonymously interviewed.
Analyzing the results of the survey:
1. What is ICT? - 67% of teachers answer this question; 9% teacher computer; 24% of teachers responded close to feedback on information processing devices and tools.
2. Where do you use ICT in the classroom? - 70% of teachers explain a new topic, 13% of them ask questions and take tests; 4% of teachers at all stages; 26% of teachers said they did not use it at all.
3. What ICT tools do you use? - 72% of teachers have computers, including 20% video projectors and 17% TV sets; 24% of teachers have none; 4% of teachers gave close answers to the question that computers and all their devices, as well as software.
4. What software tools do you use? - 55% of teachers have multimedia tools; 32% of teachers did not write anything; 13% of teachers responded close to the comments that they were different.

5. When do you use ICT tools? - 54% of teachers attend open classes and seminars; 26% of teachers never; 20% of teachers gave close answers to the opinion that it is almost harkun.

6. Your level of ability to use ICT tools? - 84% of teachers are secondary; 14% of teachers are excellent; 2% responded close to the statement that they did not know.

7. What ICT hardware do you need? - 95% of teachers included computers, including 49% of teachers with video projectors, televisions, printers, scanners; 1% no teacher; 4% of teachers answered that they need equipment such as computer, whiteboard, video projector, TV, microphone, speaker, video camera.

8. What software do I need? - 65% of teachers teach multimedia; 18% of teachers teach and supervise lessons; 17% of teachers responded to the idea that no software is needed.

9. What computer programs do you use? - 75% of teachers answer the question word, power point; 5% no teacher; 20% of teachers responded to the feedback from all programs.

10. Do you use a global network? - 37% of teachers answered yes; 42% of teachers did not write anything; 21% responded positively to the lack of teachers.

11. What Internet services do you use? - 77% of teachers are from the search service, including 30% from the e-mail and telegram services; 16% of teachers do not use the Internet; 7% of teachers gave close answers to the question of all services.

12. Do you have an email, and on what site did you create it? - 59% of teachers answered yes, of which 32% wrote the name of the site; 41% answered that there were no teachers.

13. In what order do you want to improve and retrain? - 31% of teachers are in the usual in-service training center; 69% of teachers gave close answers to the question of distance.

14. What subjects or what do you want to study? - 52% of teachers are only specialists; 9% teacher entertainment; 39% of teachers gave close answers to the comments on science and ICT.

15. How many years do we want to improve the skills? - 13% of teachers for 3 years; 59% teacher 5 years; 14% of teachers each year; 9% of teachers in 7-10 years; 5% responded favorably to the statement that even if they did not have a teacher.

The results of the analysis show that the performance of teachers is low, so they did not answer the questionnaire correctly. If we look at the results without taking these into account.

№	Results		
	Positive answers	**Satisfactory answers**	**Bad answers**
1-question	24	9	67
2-question	4	70	26
3-question	4	72	24
4-question	13	55	32
5-question	20	54	26
6-question	14	84	2
7-question	4	95	1
8-question	18	65	17
9-question	20	75	5
10-question	37	42	21
11-question	7	77	16
12-question	32	27	41
13-question	69	31	0
14-question	39	52	9
15-question	14	72	14
Total:	319	880	301
Average**:**	**21 %**	**59 %**	**20 %**

These results show that the ICT literacy of school teachers is not sufficient to apply it in education.

Therefore, it is necessary to establish a center for the introduction of ICT in education, to train and improve the skills of teachers, as well as to conduct important research. Only then will the results of the research be reflected in the content of scientific knowledge and subjects and will be continuously applied in practice.

These teacher training and development centers have a number of tasks:

- First of all, it is necessary to set clear plans for teacher training and retraining centers;
- selection of ICT tools for education and its methodological justification;
- It is necessary to develop clear and effective methods and techniques for the introduction of ICT in the educational process;
- The development and implementation of curricula for the use of PDVs in education should be raised to the policy level;
- ensure continuous teacher training;
- Create an e-book, e-textbook, e-textbooks on the use of ICT in education and ensure its delivery to all school teachers;
- Introduce the introduction of ICT in education as a science and the development and implementation of science programs;
- Facilitate the provision of textbooks on the use of ICT in all disciplines;
- to check the knowledge of teachers in their specialty and to constantly monitor it;
- remote organization of lessons;
- Introduction of the role of an automated machine, eliminating the human factor in the organization of lessons and control;
- All work should be organized in a systematic way, the distribution of lessons to teachers according to the results of their mastering, the development and implementation of a system of specific measures for teachers with low mastery.

The minimum amount that all teachers should have in order to organize ICT classes in teacher training and retraining centers is required. The purpose of setting such a minimum level is to reveal the conveniences and opportunities for the acquisition of knowledge in the field of ICT with the use of ICT, to organize classes through ICT and to teach students to acquire knowledge, skills and competencies independently.

It is important to take into account some features when teaching ICT to teachers. To do this, the lessons should be organized in two parts:

- The first is the part that is common to all subject specialists;
- The second is a section for specialists in a particular subject.

In the part intended for all subject teachers, it is necessary to teach the general features of the problem, psychological, pedagogical, social aspects, as well as the general aspects of the problem, such as the use of ICT tools and their introduction in teaching.

In short, software products such as computers, video projectors, electronic whiteboards, question and answer, test and control tasks, their results, and grade analysis (Kahoot, Plickers, Socrative, NearPad, google class) are important for all teachers. is considered. It is also a good idea for all teachers to go through some of the applications and office programs that are needed to teach the subject.

In a separate section, the subject should be taught to professionals, including teachers of mathematics, computer science, physics, chemistry and other sciences, effective ICT tools for mastering the subject.

For example:

- for mathematics teachers - devices such as calculators, computers and mathematical applications (iMatik, Photo Math, OQ code, Geogebra, mathematical dictionary, mathematical carousel);

- For teachers of fine arts - devices such as telephones, cameras, printers, scanners, monitors, video projectors, whiteboards and graphic editors such as Paint, PhotoShop, PhotoImpak, CorelDraw;

- for music teachers - devices such as microphones, speakers, video cameras, video tuners, video eyes, video cards, as well as audio and video converters, music processing software;

It is advisable to teach special hardware and software products for each subject separately for science teachers.

Particular attention should be paid to the organization of distance learning in teacher training and retraining centers:

- adherence to the components of the organization of lessons;

- creating opportunities for teachers to learn in parallel with their work in the organization of lessons;

- take into account the access of teachers to the Internet;

- pay attention to the amount of lessons (time, volume, number, etc.);

- take into account the needs of teachers in teaching science topics;

- focus on topics that teachers are struggling with;

- Orientation of in-service training to increase the knowledge and skills of teachers;

- The results should be monitored.

In supervising teachers, special attention should be paid to:

- control of teachers' attendance;

- control questions do not deviate from the given material;

- pay attention to the address of distance participation of teachers;

- comparison and analysis of teachers' control responses;

- Analysis of control responses within the topics;

- Determining the duration of further training, depending on the results of the teacher;

should be monitored for parameters such as Depending on the results, it is possible to take measures that are important for the teacher's knowledge and provide them with practical assistance.

CONCLUSION

In conclusion, it should be noted that general secondary school teachers are not sufficiently literate in information and communication technologies. In order to take measures to overcome this, we need to set a number of tasks:

- It is necessary to promote the idea of providing education with ICT, its application in the educational process, informatization;

- Overcoming the problem of providing secondary schools with ICT and improving the provision of ICT, which is important for the educational process;

- Training of secondary school teachers in modern methods, development and implementation of new pedagogical software;

- Improving ICT literacy of secondary school teachers, developing a plan for their retraining;

- Updating and implementing the work plans of the centers for advanced training and retraining of public educators;

- It is necessary to use ICT tools and methods for general secondary school teachers, to improve their skills and retrain them in practice.

It is difficult for secondary school teachers to move to a digital economy and advance in society without improving ICT literacy.

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