

Reforms, Problems And Solutions in The Public Education System of Uzbekistan: The Importance of Lesson Study

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Abstract

This article describes the characteristics, problems and shortcomings of the public education system of Uzbekistan, as well as the ongoing reforms. It has been shown that one of the main problems in the education system is that teaching is not based on practice or that the level of students' application of the acquired knowledge to life is low. The importance of conducting education in an interactive form was mentioned, and special emphasis was placed on lesson study, which is considered a form of Japanese education. It is known that lesson study is famous for organizing education in the context of practice and self-development, based on learning and research of the educational process. Recently, as the educational problems in our country are widely discussed in the educational reforms being carried out in Uzbekistan, the main problem in education is that the role and importance of lesson study in forming

the skills to apply theoretical knowledge in life is the main problem in education.

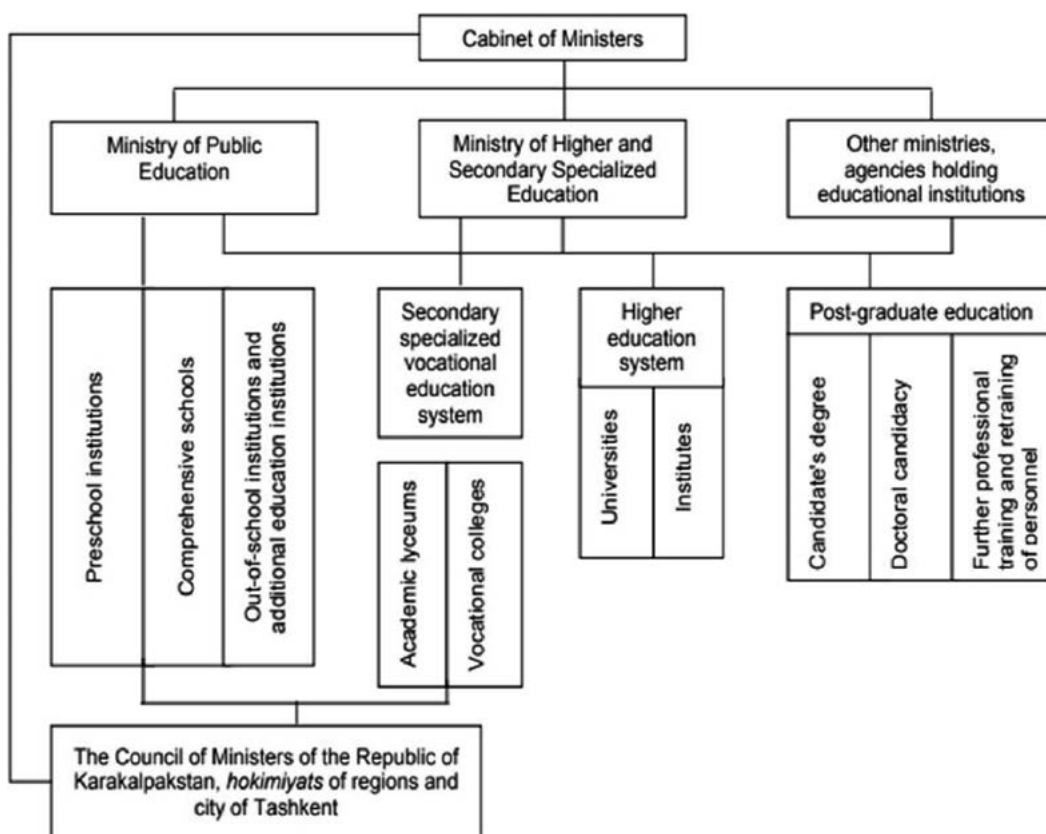
Keywords: educational system, educational technologies, lesson study, school, teacher.

1. INTRODUCTION

In Uzbekistan 11 years of education are compulsory and free, beginning with 4 years at primary school, and followed by 2 phases of secondary education taking 5 and 2 years respectively. Primary school begins at age 6 and there is no specific leaving examination after the 4 years are complete. The next 5 years are spent at general secondary school from ages 10 to 15. Following that, there is a choice of between 2 to 3 years of upper education at either general or technical vocational schools. The former provides a certificate of completed secondary education and the opportunity to enter university, the latter a diploma of specialized secondary education, through a network of secondary vocational institutions.

The last decade was a "decade of reforms" in Uz-

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Source: Ministry of Public Education of the Republic of Uzbekistan, United Nations Educational, Scientific and Cultural Organization, and United Nations Children's Fund. 2007. *The National EFA Mid-Decade Assessment Report*. Manila.

Source: Ministry of Public Education of the Republic of Uzbekistan, United Nations Educational, Scientific and Cultural Organization (UNESCO), and United Nations Children's Fund.

Figure 1. The structure of Education System Management in Uzbekistan.

Uzbekistan's educational system like other spheres of community. Besides that, the Government of Uzbekistan paid more attention to develop legislative bases of educational processes. Adoption of a new version of the Law on Education in Uzbekistan gives a strong force in achieving quality and efficiency in education through the implementation of the "State Program for the Development of School Education" in the educational process, and thus the full implementation of modernized educational standards started the supply period. The construction, beautification and creative work of new schools is being carried out by the state. Our schools are getting a new look and all the conveniences. The provision of schools with new equipment, tools, improved programs, modernized tested standards, a new genera-

tion of textbooks (as a lease), and the computerization is carried out on the basis of the State National Program. In other words, instead of boring lessons, there is a growing demand for teachers who are creative, professional, methodical, productive, well-versed in modern interactive pedagogical technology, and able to organize education on the basis of innovations. No matter how much the material base, standards, curricula, programs and textbooks are improved in education, the creativity of the teacher who conducts direct theoretical and practical training, to achieve the expected main result, to provide deep and thorough knowledge, to achieve high-quality mastery, inquisitiveness depends on the qualification, pedagogical skills, and in the learning, the center requires a network of pupils.²

If say about how do pupils learn, without any doubt should say about the evolution process of educational processes in Uzbekistan during the last 30 years. Since the 1990s, education in Uzbekistan has been continually weakened by economic crises, budget cuts, and social difficulties. Today, less than one-quarter of age-eligible children are enrolled in nursery schools. At the primary and secondary levels, hundreds of thousands of pupils attend overextended schools in shifts. The official literacy rate is 99 percent. However, in the post-Soviet era educational standards have fallen. Funding and training have not been sufficient to effectively educate the expanding younger cohorts of the population.³ Today, all spheres of the life of New Uzbekistan have become a field of deep reforms. In this process, it is impossible not to talk excitedly about the changes in the educational system, which is considered the basis of the social sphere. In recent years, practical work on the organization of all stages of the education system based on modern requirements has entered a decisive stage in our country.

As our President noted: “The more educated our children are, the faster the economic sectors based on high technologies will develop, and the more social problems will be solved”. Therefore, if I say that the threshold of New Uzbekistan starts from the school, I think that our entire nation will support this idea. We can see that the importance of education in our country is growing from the type and volume of investments in education. In particular, the share of education in the gross domestic product is 6%, and it is equal to 21-22% in the annual government expenses, which shows that the attention to education is increasing.

2. EDUCATIONAL ISSUES

Children and teenagers learn by observing, listening, exploring, experimenting, and asking questions. Being interested, motivated, and engaged in learning is important for children once they start school. It can also help if they understand why they're learning something. And as your child gets older, your child will enjoy taking more responsibility for their learning and getting more involved in making decisions about learning and organizing activities.

When your child goes to primary and then secondary school, you can help your child have a positive attitude

to learning, just by being positive yourself and showing you value the learning that the school provides. The quality and effectiveness of education depend on the pupil's ability to engage in independent reading, independent thinking and thinking activities aimed at mastering the content of learning. The following characteristics can be demonstrated in pupils when conducting interactive teaching methods.⁴ The pupil is not taught, he is taught to read, study and work independently. At the same time, pupils are taught to master through independent analysis, to think creatively, and to think freely on the basis of personal conclusions. Pupils develop the ability to think against foreign ideas, to defend their position. Instead of imparting knowledge to the pupil in a ready-made way, the pupil develops the ability to acquire knowledge by searching, finding, and processing knowledge from textbooks, the Internet, and various other sources. It is not an ability that is only applicable in school, but one that is applicable in their lives as it relates to knowledge in daily life acquired through rich everyday experiences. This means that it can also lead to solutions to various social problems they face in everyday society.

Through the acquired knowledge, it is possible to think creatively. Pupils will be taught to work with textbooks, read, study, write notes, and acquire independent reading skills using additional literature. In schools, all pupils are guaranteed to master at the level of their abilities. At the same time, the pupil's ability to apply the acquired knowledge in life and practice is determined by the skills and abilities. All pupils can achieve the same results if all teacher-pupils learn to work using interactive methods and incorporate them into their learning activities. The organization of pupil activities plays an important role in the implementation of the learning process and the effective use of its structure. Because the pupil is at the center of the process. Based on the above, this paper provides an overview of the current state of education in Uzbekistan and identifies practical educational issues. It then explores clues to their solution based on the perspective of Lesson Study, the author's area of expertise.

2.1. Educational Issues in Uzbekistan to be Elucidated

During the implementation of my doctoral research work in Uzbekistan asked questions related to founda-

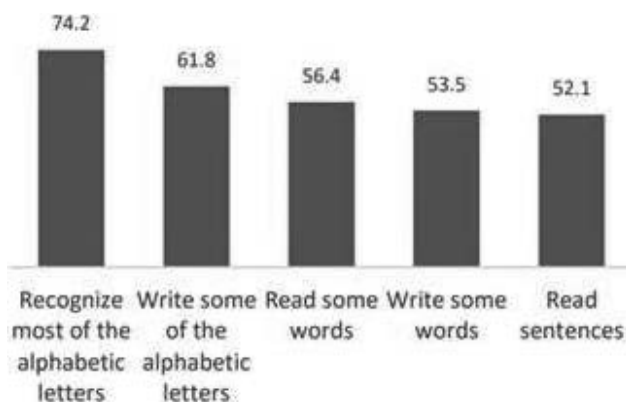


Figure 2. The proportion of children who reported early literacy skills before entering grade 1 in school.⁵

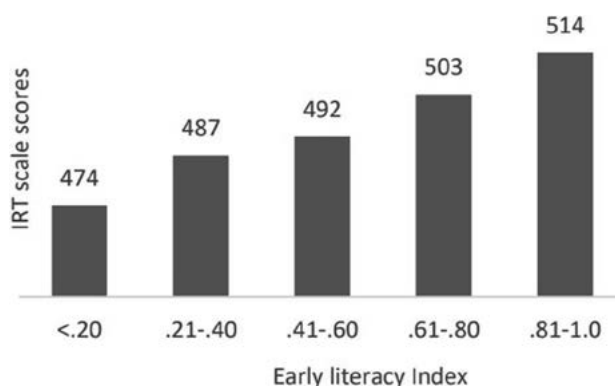


Figure 3. Early literacy index and reading comprehension scale scores.

tion skills before entering schools or “school readiness” to a sub-sample of pupils. Children were asked about their basic literacy, and more than half of them reported they were able to read sentences before entering grade 1. Based on their reporting of various aspects of early literacy skills, an index was created. The analysis shows that the better the early literacy skills before entering school, the better the reading comprehension scores of children.

The school environment encompasses many factors that affect a pupil’s learning. A school with a positive environment enhances pupils’ general feeling of well-being and contributes to better learning. Pupils were asked a few questions to understand their general feeling towards being in the school. Analysis of TIMSS 2015 shows that among grade four pupils, boys who agreed with a lot that they felt safe at school achieved, on average, 4.1 points higher in mathematics and 2.9 points higher in science than their peers who felt less safe in

school. A large majority of pupils acknowledged that they like their school, they feel good about the class, they feel safe in the school and that they have many friends in the school. However, on average, 20 percent of the pupils either disagreed or did not provide an answer. This means that there is a significant proportion of children who are discontented with the school and learning environment. The analysis of test scores reveals that the degree of pupils’ feeling of well-being has some influence on their learning levels.

Homework is defined as a set of school tasks that are assigned by teachers for pupils to complete outside of non-school hours. This definition explicitly excludes

- (a) in-school guided study;
- (b) home study courses delivered through the mail, television, audio or video cassette, or the Internet; and
- (c) extracurricular activities such as sports and participation in clubs.

Variations of homework can be classified according to its amount, skill area, purpose, degree of individualization and choice of the pupil, completion deadline, and social context. Homework is a way to extend instruction and assess pupil progress. The amount of homework assigned for reading varies across contexts. In some countries (by policy) or schools (decision by teachers) homework is assigned typically to pupils who need the most practice—those who tend to have the most difficulty in the respective subjects. Homework does have a positive effect on pupils' achievement, time spent on homework generally has an inverse relationship with achievement, as pupils for whom learning is difficult to require more time to complete the assigned homework.

2.2. Educational Practical Issues in Uzbekistan to be Elucidated through Lesson Study

In the present time in Uzbekistan, a fourth of the grade IV pupils reported spending less than 30 minutes daily on homework, while another 28 percent report spending half an hour to one hour on homework. Around 39 percent of pupils reported spending more than one hour in completing homework. The test scores indicate that the time spend on homework has a positive relationship with learning outcomes. Clearly, homework practices in early grades in Uzbek schools seem to be geared more towards enriching and supplementing their learning than for compensating for children's learning deficits. The more time children spent doing homework, the bet-

ter their academic performance. Homework improves learning significantly for the children of Uzbekistan. This needs to be looked at in the context of the time available in school for learning and instruction. Uzbekistan's instructional days and time are limited compared to many other countries performing better in international assessments. This is despite the fact that the curriculum load is relatively high. Teachers compensate it by assigning more homework and pupils compensate it with time outside school. Supportive families ensure that children complete homework on time and support children with their studies. This is definitely evident in the better scores of children who devote more time to homework.⁶

The provided research shows that pupils scored on an average of 58 percent in “finding/retrieving clearly presented information” under the Reading Comprehension test – which means pupils on average were able to locate information which is direct and non-complex. Around a fifth of the pupils were successful in locating all the “clearly presented information” in the text, while a little less than a tenth of the pupils could not locate even a single, simple information presented in the text. Pupils' mean ability to make direct, straightforward conclusions using the information in a given text averaged around 48 percent. Around 6.5 percent of pupils failed in doing even a single task under this category, while 4.8 percent of pupils got all the tasks related to conclusions right. Despite the pupils' failure in making direct conclusions

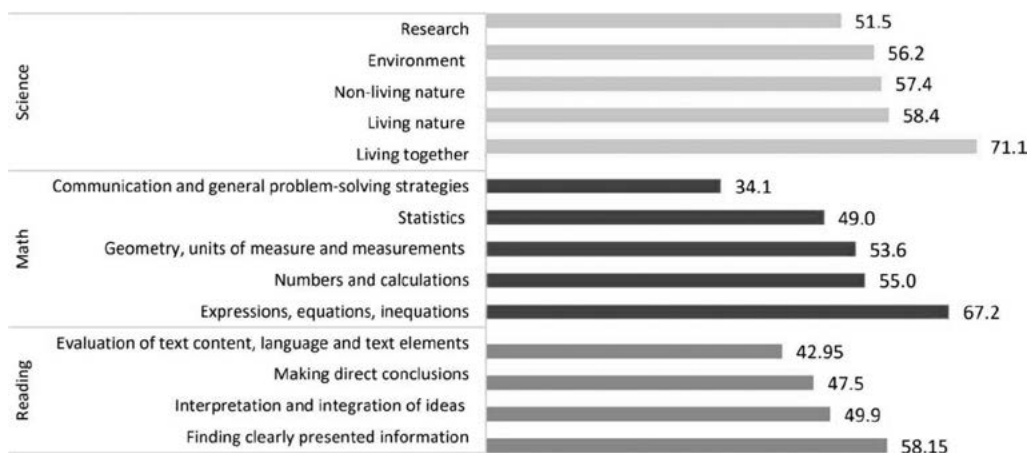


Figure 4. National Assessment Study (NAS) for Grade IV results: Mean scores (%) by Content areas in Reading Comprehension, Mathematics and Science.

in more than half of the instances, they were able to complete half of the tasks related to interpreting ideas and integrating different ideas. Around 12.5 percent of pupils failed completely in interpreting and integrating ideas, while 6.6 percent of pupils successfully completed all associated tasks in this domain. Pupils on average scored 43 percent in Reading Comprehension tasks that required them to evaluate the content, language and text elements. Here again, around 13.5 percent of pupils failed in all tasks related to the evaluation of text content and language, while 12 percent of pupils got all of them correctly. In Math, pupils on average scored 67 percent in the content area related to mathematical expressions, equations and inequations, but scored only 34 percent in communication and general problem-solving strategies.

In numbers and calculations, very few pupils got all the items correct and even less who got zero scores. The same is the case with geometry, units of measure and measurements. In the case of expressions, equations and inequations, more than a third of the pupils got all items correct while only 3 percent got all wrong. Slightly less than a fourth of the pupils got all items related to communication and general problem-solving strategies. However, in the case of statistics, around an equal number of pupils got all items right, all items wrong and some items right. In Science, pupils in grade IV scored a high mean score of 71 percent in tasks related to “living together” but could get only 51.5 percent on items that required exploration and some research. Around 41 percent of pupils scored all items correctly in the case of “living together”. Performance by Cognitive domains: The performance of pupils was also analyzed based

on the cognitive domains that the test items covered. In all three subjects, cognitive domains covered: (a) knowledge and understanding; (b) applications; and (c) reasoning and critical thinking.

In all the subjects, pupils of grade IV in Uzbekistan showed their dominant skills in absorbing knowledge compared to the application of knowledge to a specific situation or using the knowledge for reasoning and critical thinking. Pupils on average scored 60 percent or above in the cognitive domain of “knowledge and understanding”. On the other hand, they could score around 50 percent in skills related to application, and below 40 percent in reasoning and critical thinking areas related to Math. This points toward the fact-based teaching and learning happening in the classrooms in Uzbekistan. Skills related to application and reasoning are transversal skills and critical for ever-evolving labour markets and job requirements. How does Uzbekistan fare internationally in performance by content areas? Compared to high performers like Singapore, Russia and Korea, where children got on an average more than 70 percent of the items correct overall, in Uzbekistan, grade IV children on average were able to get half of the tested items in Reading Comprehension right.

2.3. Possibilities of Lesson Study

In Japan, becoming a public school teacher requires graduating from a Ministry-approved university teacher education program and then obtaining a teaching certificate for a particular school level (primary, lower secondary, or upper secondary) and for a particular subject. There are a lot of teaching hints for teacher education in Uzbekistan. For example, there are a lot of teaching

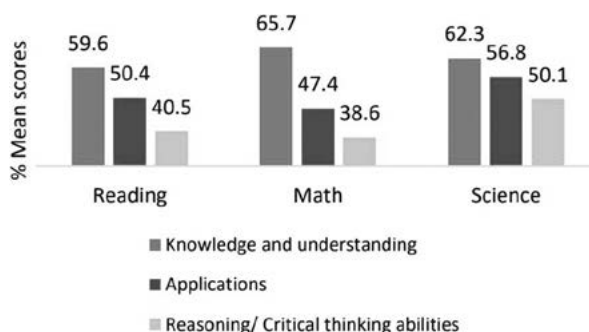


Figure 5. Mean scores of students based on measured summarized ability.

hints and methodologies in Japan such as lesson study. Using existing evidence, participants collaboratively research, plan, teach and observe a series of lessons, using ongoing discussion, reflection, and expert input to track and refine their interventions.

Lesson Study is a collaborative professional development approach focused on pupil learning. The Lesson Study Cycle is comprised of four stages. Typically, teams complete one or two cycles each academic year. Attention to the three Lesson Study Implementation Practices helps teams build the capacity to understand pupil learning and make meaningful changes to their teaching practice. Participants work in iterative cycles, each of which consists of four stages¹:

1. Study and Plan
2. Teach, Observe, and Debrief
3. Revise and Reteach
4. Reflect and Report.

Lesson study helps teachers improve by focusing on collaboratively planning and revising a single lesson. There's a form of cogent professional development that requires teachers to collaboratively create, participate in, and reflect on a lesson. Lesson study is a good method for improving education quality in Uzbekistan. There is not lesson study method in Uzbekistan, it looks like the "Open lesson" method in Uzbekistan but they have a big difference in implementing and analysis at schools. At the moment we are studying to implement lesson study in Uzbekistan's schools for improving education quality instead of existing one, as well as we have a big experience with lesson study from Japanese professors. For implementing lesson study at schools, we should know these steps:

1. Identify a target skill that will be the focus.
2. Collaboratively plan a lesson.
3. Observe the lesson to gauge pupil impact.
4. Debrief the lesson to develop improvements.

Implementation of lesson study consists of 4 stages such as planning, implementation and observation, reflection, and follow-up. The research instruments include performance assessment, pupil questionnaire, and self-assessment. The research data shows that lesson study gives a positive impact on teaching skills. From my experience, lesson study can improve lesson quality. During the lesson study process, the teachers can exchange ideas, gather experience, research and discuss

topics, learn and discover news for lessons together. For implementing lesson study at schools in Uzbekistan it was taken some classes at schools located in Tashkent. During the writing lesson study transcripts, it was found pupils' thoughts and possibilities.

In the beginning of September, it was organized a seminar by the state inspectorate for supervision of quality in education about implementing lesson study at schools and its possibilities. According to the seminar results, teachers are interested in learning lesson study and implementing it in schools. Teachers are used to using chalk, blackboard, monitor, computer and other tools in the lessons. According to the rules of lesson study at schools they will create new methods for teaching at schools.

3. ISSUES IN TEACHERS' TRAINING AND DEVELOPMENT

The implementation of education policy reforms was initiated under the National Program for Personnel Training (NPPT).¹⁷ NPPT says that, upon securing independence, Uzbekistan chose its own path of economic and social development, and created the need to reorganize the structure and content of the training.¹⁸ Among others, NPPT introduced the following reforms: (i) increasing senior secondary education (SSE) from 2 to 3 years; (ii) restructuring and rationalizing the agencies responsible for education services such as the Ministry of Public Education (MOPE) and the Ministry of Higher and Secondary Specialized Education (MOHSSE); (iii) decentralizing financial resources; (iv) improving public governance in educational establishments; (v) increasing the salaries of teachers; and (vi) modernizing the framework of the curriculum, instruction materials, and learning assessment.

In 2004, the government followed through with education reforms by adopting the National Program for Basic Education Development (NPBED), also known as the National Program for School Education Development¹⁹ 2004–2009, which aimed to strengthen school education so it would meet international standards. NPBED sought to remove disparities between rural and urban schools, and to establish a compulsory 12-year schooling system in Uzbekistan by 2009. It adopted a number of measures to streamline school financing, including measures to establish an off-budget School Education Fund. NPPT

was launched in 1997 focusing on school education, including vocational and technical education. In 2004, the National Program for Basic Education Development (NPBED) was launched focusing on general secondary education and resource allocation issues.

“The quality of an education system cannot exceed the quality of its teachers”. Teachers are a very influential determinant of the classroom environment and Uzbekistan Government highlighted the importance of teacher effectiveness in the determination of school quality. Teacher effectiveness comprises of preparation and training, use of particular instructional approaches, and experience in teaching reading. The qualification, competence and experience of teachers are critical in pupil learning.⁷

3.1. The Situation of Teacher Education

Recently, established the Professional Development Qualification Center in Uzbekistan for teachers. This center helps to create a continuous professional development scheme framework for teachers of Uzbekistan. All teachers under the MoPE, as well as other educators across Uzbekistan at later stages, have an opportunity to receive support towards their professional growth. By providing teachers with high-quality and regular training, government can improve and maintain quality standards. It will also help teachers to become more adaptable, allowing them to switch to new curriculum, teaching methods and pedagogy more easily. Also, government understand that having continuous professional development will assist with teacher’s retention and career progression. The main goal is to create a positive and safe learning environment not only for pupils but for all members of the professional learning community. Capacity building for local teachers allows to create a teacher community united by feelings of belonging to the school. In this way, the government can make the reforms more sustainable.

In the field of the school’s education administration, it is particularly important for school administrators to encourage teachers to pursue professional development, not only to ensure the best learning outcomes for their students but also to be more effective and satisfied in various other aspects of their work. The new curriculum and educational approach help teachers with their professional development and acquiring new teaching

skills. When students get an opportunity to learn in a more student-centred environment and complete real-life-based projects, they will be able to relate more to the content of a lesson. This will help increase students’ intrinsic motivation to learn and achieve better outcomes from their studies which will help them succeed in their post-secondary lives.

3.2. Role of Lesson Study for Teacher Training

The main segment in the field of education is undoubtedly teachers. The knowledge and skills of teachers determine the quality and effectiveness of education. Although a good and stable system of training and re-training of teachers has been established in Uzbekistan, problems and shortcomings remain in improving the quality of education. As we have shown above, one of the main problems is related to the content of the lesson and the participation of students in it. Studies show that teachers usually spend a lot of time explaining the lesson and getting the students to memorize the material. Students are also observed to get bored of the long process based on the explanation of the lesson and focus on other things. Worst of all, students are less able to apply the knowledge they have memorized in practice or in real life. Therefore, it is important to use the lesson study method more and more efficiently in order to make the lesson interactive.

Lesson study not only makes the lesson interesting and meaningful in an interactive way, but also greatly supports the professional development of teachers. Since lesson study is a lesson based on research, it gives an opportunity to see mistakes and shortcomings in the lesson, and through this, it encourages the group of teachers to think, think, and implement new methods in order to make the next lesson more meaningful in order to eliminate mistakes, shortcomings and problems. Contentful and effectively conducted lessons become a great achievement and experience for teachers. Teachers contribute to the further improvement of their profession by sharing the results of lesson research.

The lesson study, which promotes the wide participation of students in the lesson, greatly helps the lesson to be interesting and meaningful. We can see in the scientific works of Stigler J. & Hiebert J. (1999), Isoda M. (2010), Takahashi A. (2013), Dudley P. (2014, 2019), etc. lesson study method has achieved many achieve-

ments and positive results. We believe that there is a great need for this in the public education of Uzbekistan. Because we cannot achieve good results in education by conducting classes in the traditional way (explaining, teaching, memorizing). Students struggle to apply their knowledge (as shown in Figure 5) to solve real-life problems and issues. Our studies show that the level of critical and creative thinking among students remains low. Teachers are a big reason for this. The reason is that they conduct the lesson in a rhythmic way, not depending on the problem and situation, and they do not encourage the creative and critical thinking of the students.

Another important aspect is the great importance of lesson study arising from local problems in improving the knowledge and skills of teachers. About 600,000 teacher-pedagogues work in the field of public education in Uzbekistan. It is not an easy process to introduce retraining courses to improve the skills of such a large number of personnel. Although short courses and online seminars are organized at the Avloni Teacher Training Institute, these training seminars are unlikely to arise from local problems and situations. Lesson study is remarkable because it originates from local conditions. Through lesson study, it will be possible to see and analyze the educational process in a remote area (through video tools). In addition, teachers will be able to evaluate the lesson based on the behaviour of students during the lesson. This allows teachers to incorporate recommendations that improve each other's knowledge and skills by observing and learning from the lesson process, and ensuring that subsequent lessons are more meaningful.

4. DISCUSSION AND CONCLUSION

As I wrote above, lesson study is a kind of teacher training program extensively used for the professional development of both pre-service and in-service teachers. Current research intended to explore the effect of the lesson study approach on science learning. As the academic attainment of students is considered the basic parameter to evaluate classroom learning, so the effectiveness of the lesson study approach was measured in association with the student's achievement at the elementary level.

The main idea of this research is devoted to imple-

ment the lesson study approach for teacher education (in-service) in Uzbekistan. The Effectiveness of using Lesson study for teacher education is approved by implementing research in the world. It is also revealed that science teaching through lesson study increases the comprehension and application skills of elementary students significantly. The research recommends endorsement of the lesson study approach in the teaching of science by inculcating it in the teacher training curriculum.

Finally, I came to the conclusion from the analysis of related materials topic that using Lesson study for teacher education (in-service) is more beneficiary than the conventional way of teaching teachers. Hence, the use of the lesson study approach increases the high-order cognition of teachers and they perform better on high-order thinking questions; beyond memorization. So, the attainment of teacher education (in-service) can be improved significantly through the lesson study approach, studying in teacher retraining institutions under the Ministry of Public Education of the Republic of Uzbekistan.

According to the facts related to studying lessons study, I would like to give the following recommendations to the responsible institutions: A teacher's professional development program can be organized for in-service science teachers in order to train and equip them with the sufficient drill to practice lesson study in teaching science. The effectiveness of the lesson study approach on mathematics both at primary and elementary levels can also be studied. Concepts related to the teaching of science through a lesson study approach can be amalgamated in the curriculum designed for prospective pre-service science teacher education so that they can apply it in the field after getting employed.

Continued research in lesson study can also comprise recapping this practice with a relatively bigger sample of pre-service science teachers making their lessons and delivering in their teaching practices in various public and private schools. "...the Uzbek government recognized the fact that a well-developed system of education is one of the most fundamental factors in promoting economic prosperity in a market-based environment, and therefore committed itself to creating an education system that reflected national values and produced highly qualified specialists."¹⁸

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Reforms, Problems And Solutions in The Public Education System of Uzbekistan: The Importance of Lesson Study

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This article describes the characteristics, problems, and shortcomings of the public education system of Uzbekistan, as well as its ongoing reforms. It has been suggested that one of the main problems in the education system is that teaching is not based on practical application. Students see little relevance between their acquired studies and what is necessary for daily life. This research looks at the importance of conducting education in an interactive form with special emphasis on lesson study, a particular form of Japanese educational methodology. The Japanese type of lesson study is known for organizing educational objectives via hands-on practice towards teacher self-development. It is based on improving the skills of teaching by constant analysis and reflection. In Uzbekistani today, educational problems are widely discussed; reforms have been initiated. What remains to be addressed, however, is a recalibration of the teacher's development towards utilizing the lesson study method so that student skills are formed that lead to the ability to apply theoretical knowledge to life problems.

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