



The Benefit of Teaching Mathematic Using “Maple” Software at Public Secondary Schools in Dushanbe

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Abstract: *The widespread use to information and technology nowadays has an important influence on the aspects of human societies, including tools and methods of teaching-learning. Many new technological software has been designed to assist teachers and students optimize time and energy throughout the teaching and learning process. One such program is Maple. Maple is a piece of software that may be used to learn and teach math to help pupils grasp concepts more quickly. Despite the fact that Maple software is regarded as a tool that facilitates mathematical learning, many institutions, particularly junior high schools in Dushanbe, Tajikistan, have yet to implement its use in mathematics classes. The objective of this research are to (1) examine and comprehend the actual implementation of Maple software in junior secondary schools, (2) measure the level of comprehension of Maple software, and (3) observe the challenges that teachers and students encounter. A mixed-method, qualitative and quantitative approach was adopted using descriptive analysis to look at the information gathered through online surveys and interviews. The findings revealed that the majority of teachers were in favor of adopting this software in their classrooms, but there are four major points on which both teachers and students should concentrate. (1) 79 percent did not know about Maple software, indicating that the use of Maple software in Dushanbe city junior high schools is relatively low; (2) 50 percent did not know about using ICT tools, indicating that, while some schools have facilitated the learning process using Maple software, the training in using this software has not reached a good stage, and there are still many students who do not understand the function of using this software. As a result, it can be stated that more attention should be paid to the implementation of training for both teachers and pupils while using Maple software in junior high schools.*

Key Words: *Maple software, electronic learning, classroom teaching in junior middle school, training*

1. INTRODUCTION:

Today society needed to provide with high quality education and technology. As we know ICT it is the base source of education, that we need to follow the skill of education on it. On 2020 announced the century of technology in Tajikistan. So technology education must utilize and make it available to everyone. During constant changes in the requirement of secondary school student, it is not enough to have knowledge. By having enough knowledge students necessary to have the competence. Competence is the new term in education system of Tajikistan. A competent approach to teaching is an approach that focuses on developing students' practical skills. A competent approach to teaching mathematics and information technology, should follow this step. How students can able to use technology, what can students do by using technology during education of mathematic. What is the really meaning of competence? Competence: is a set of knowledge, skills, and abilities. Knowledge, ability and skills are called a key indicator of competence. Competence is not taught by someone. Everyone have own competence. A competent person performs actions better than incompetent person. Examining interdisciplinary relationships as a visual competency, the following main tasks can be identified: formation of scientific outlook, development of a system for preparing practical issues, the development of mental activity, organizational and pedagogical task, which is expressed in the elimination of duplication. Mathematics is presented to the reader not only as a system of logical rules and deductive proofs, but it also as a method of cognition through practical problems. Day by day education system is growing up. The concept of competence serves as a focal point of education. Competence combines intellectual knowledge and shaping skills. Maple is the powerful software that easy to use for learning math and can improve student's grades, save time and building confidence to the students. In fact, is to say math is one of the major subject that building foundation of the students for the future. Maple may very well be the most powerful piece of software and to create foundation for this subject. In this Research, the main focus of the paper is the study of feasibility of the implementation of Maple software learning-teaching system from the perspective of students in primary and



secondary schools of Dushanbe city in Tajikistan. The questionnaire will be prepared according to students understanding and distributed to measure their understanding particularly math subject and data will be collected, analysed and Finally to see the significance of this software to the learning environment. The increase of ITC to society's wisdom, implements and education of system and teaching improved day by day. Usage ITC instruments are promptly increased. According to one researcher (Naidu, 2006) explained that, electronic education be able to be embattled using information and communication technology network in the teaching-learning process. The expansion of data and announcement knowledge, CPU abilities, software besides Internet distant schooling arrangement has come into an innovative step. The prompt improvement of material skill, variations to presentations and processes of technical. Based on Maple software most functionality is provided ability to solve the mathematical problem that many students seem to be the main issue.

Using Internet and data skill at education system, speedily is increasing. According to one researcher (Naidu, 2006) explained that, electronic learning can be battered using information and communication knowledge system in the teaching-learning procedure. The development of information and communication technology, computer facilities, multimedia and Internet remote education system has entered a new stage. The rapid development of information technology, changes in applications and processes of technical. Based on Maple software most functionality is provided ability to solve the mathematical problem that many students seem to be the main issue. Second problem is most students are not interested to study Math by using Maple software. Maple software is the program to save our time and easy to teach Math to students. By using Maple software, we can find more explanation about Math questions. But Dushanbe city schools are not provided with technology, internet, and Maple software. If I compare Dushanbe city of Tajikistan to Chinese studying Math methods are very big difference. Most school students in Dushanbe city of Tajikistan are not used to do with Maple software. In new generation age teachers don't know how to teach students with simple and save time methods. Most teachers are nervous. Teachers should be kind, soft, fearless. No need to use the old method for teaching Math. In the World teaching method of Math is very important. In Dushanbe city of Tajikistan teachers need to teach students with simple way and new generation. Another problem about my research is most teachers are not interested using technology during classes. They always use old method of Math education. Most of teachers don't know how to use technology or internet. Teachers should have interesting Math classes to make students happy and successful. If I suppose, I have my first math class in my city, before when I go to school, teachers must be soft, kind and smiley. To make students interesting classes, they should come have some experience from Chinese Math teachers. This paper assumes that teachers have an effective application and evaluation practice. The research maintains continuity between the two levels of school education, so as to improve the quality of teaching possible gaps.

Education in Tajikistan experiences numerous problems, that need to follow the technology educational system of new century. The teaching of mathematic have some numerous problems. Such as shortcoming of technology, internet connection, using technology system. The main problem to solve about my research status is, to educate students how to use technology on education of mathematic and mathematics by using Maple software during Math classes. Most schools don't provide with technology or internet. Second problem is most students are not interested to study Math by using Maple software. Maple software is the program to save our time and easy to teach Math to students. By using Maple software, we can find more explanation about Math questions. But Dushanbe city schools are not provided with technology, internet, and Maple software. If I compare Dushanbe city of Tajikistan to Chinese studying Math methods are very big difference. Most school students in Dushanbe city of Tajikistan are not used to do with Maple software. In new generation age teachers don't know how to teach students with simple and save time methods. Most teachers are nervous. Teachers should be kind, soft, fearless. No need to use the old method for teaching Math. We should act like Chinese teaching methods. In the World teaching method of Math is very important. In my opinion Chinese Math education is the best in the World. In Dushanbe city of Tajikistan teachers need to teach students with simple way and new generation.

2. LITERATURE REVIEW:

2.1. The Implementation of ICT in Tajikistan

ICT is the basic for building a data cultivation. Tajikistan, a previous Soviet republic during 1924-1991, is considered one of the humblest republics between the 15 republics that band up the previous Soviet Union. After getting freedom in 1991, the education system of Tajikistan has skilled lots of experiments and problems, such as a civilian war, unbalanced policies and a disconcerting budget. Tajikistan have a long history and culture. Culture during Samanid's dynasty strongly and powerfully prejudiced. In 1930 New Soviet kind of education system was recognized. The present education system in Tajikistan consists of many different types of educational institutions: elementary and secondary education; primary professional, secondary professional, and tertiary professional



education; post-tertiary education; special education; adult education; education for orphans and children without parental care; and other education and care. Moreover, the lack of employment chances in Tajikistan bases more than one million, mostly around 17 to 35 years old, to immigrate to Russia and other country look for job, and get some fees. These migrant employees mostly travel to Russia to treasure employment. But most of them, lack of education it is hard for them to get real job as like other citizens, or most of time they will spend their time to look for opportunities. That means their previous education, not utilized or they have lack of education. Mathematic problem can be fragmented away at in an education where every learner provided with PC. Our inspection displays the educational ability of arithmetical programming (Maple software) and online possessions to conceive theoretical arithmetical opinions and networks. Our implementation focused on ICT secondary school in Dushanbe. During this period, we are observing a permanent evolution method to a novel social and commercial society, mentioned to as the 'info community'. By the meaning of "Information society" can get different appreciate of information technologies, it also can be used by lawyers, doctors, police, economics, scientist and different kind of sections. That means the beginning of process of new changes. Globalization and the enlargement of information and communication technologies donate to elementary variations in all scopes of humanity. Most researchers trust that the actual procedure of leading information and communication technologies it is several scopes of humanity donates to the republic's effectiveness and financial life of humanity.

ICT methodically purposes in the community and commercial scopes of the Republic of Tajikistan, containing the schooling segment. The central sphere of higher schooling generates excellence opportunities for the severe submission and expansion of ICT. Globalization have changed in all around the world. The Republic of Tajikistan has affirmed till 2030 evolution of the budget technology must accomplished. The introduction of ICT in teaching method shows:

- Actual of the pedagogical process
- The construction of actual educational technology
- Delivery of unrestricted entree to educational information
- Efficiency of qualified action of teacher increased

In Tajikistan over 15 years, the handling of information and growth of ICT has assisted. According to world report on global information technology, Tajikistan took 54th place among 101 countries. It shows that, still need to utilize the education system more. This indicator consists of four form. Entree to education, excellence of education, speculation and effectiveness of human prospective. In 2008 at the Technology University of Tajikistan, an electronic library was formed, that it contains of 470 thousand educational materials can be find there. Here is some key basics to teacher's apparent practicality ICT:

- Work fast
- Job presentation
- Useful
- Success
- Increased output

Because the lack of time, most of teachers don't have competence and confidence in using computers in the classroom. Lack of teacher competency are known in most of secondary school in Dushanbe. The teachers are not supported with internet and technology. Another reason is they are lack of ICT skills. Effectiveness of the using ICT tools are, supporting teaching and learning in the classroom. Learning Math by using technology is very important. Technology without no internet and software can't be used, they need to have some ICT tool skill. Without no skill they can't able to make sure content of topic well known or simplifier. In the future education must focused based on management strategy and policy to address the barriers faced by teachers in using ICT tools during learning and teaching. Information and communications technology (ICT) is an important part of most organizations. Technology without no internet and software can't be used, they need to have some ICT tool barriers faced by teachers in using ICT tools during learning and teaching.

2.2. Impression of Maple:

Lot of individuals appreciate arithmetic at secondary school and out of secondary school as well. Some of them practice mathematical language restfully. Most of fathers and mothers educate their kid the basic concept of counting numbers and simple fractions during when they back home, most of them practice with their kid to get knowledge about using their fingers to count. Here is a lot of methods they have to educate them for counting basic elementary mathematics. They can use sticks, paper, pencil, pen, book, fingers, shoes, etc. to use it as a stuff of home teaching mode. Maple, Mathematica and other software currently the most famous mathematic software in daily life usage method, and Maple software is also one of the best mutual arithmetic and



industrial software. The software discovered in Canada in University of Waterloo. During the first version of Maple1.0, until February 2015, a total of 61 versions have been qualified. During thirty existences of exploration and progress of leading-edge equipment, Maple will help us to examine, discover, and solve arithmetic problems automatically. Maple software consist of more than 5000 functions, to the 3 scopes of size, complexity and presentation to arrangement with every kind of arithmetic problem. Maple software will maintenance us a diversity of communicating process borders, from clickable arithmetic problem tools to complex software design languages. To the bright certification setting providing by the software, operators can syndicate calculations, instructive papers, arithmetic problem formulas, arithmetic problem graphs, arithmetic problem images, arithmetic problem sounds and arithmetic problem diagrams and other means to obtain the obligatory information. The countless mathematician Euler pointed out: "Math needs not only comment, but likewise need investigation." Underneath the inspiration of the outdated "blackboard + chalk" classroom teaching mode and exam-oriented education, teachers' empathetic of the foundation of notions and propositions is in the process of teaching. Maple always taken carelessly, and students are often half-understood in the learning process. The intellectual arithmetic problem appearance and uncertain method border students' thinking to a large level. The benefit of Maple software is, can imagine arithmetic problems, and students can quickly change the unique ambiguous understanding of nonconcrete mathematical notions and formulations into an open, active and communicating setting by detecting the nonstop changes of limits and descriptions. The graphic and instinctive appearance converts the original more multifaceted and intellectual rational procedure into a comparatively humble and intense intelligent.

The first concept of Maple arose from a meeting in late 1980 at the University of Waterloo. Researchers at the university wished to purchase a computer powerful enough to run the Lisp-based computer algebra system Massimo. Instead they opted to develop their own computer algebra system, named Maple, that would run on lower cost computers. A first limited version appeared after three weeks, and fuller versions entered mainstream use beginning in 1982. Lecturers likewise partake in positions of precise outlook headed for technology learning and teaching on the maximum point and in the setting of a suitable tactic to the issues generates are at the deepest point (Tmajyan, 2008). By the end of 1983, over 50 universities had copies of Maple installed on their machines. In 1989, the first graphical user interface for Maple was developed and included with version 4.3 for the Macintosh. X11 and Windows version of the new interface followed in 1990 with Maple 5. In 1992, Maple 5 Release 2 introduced the Maple "worksheet" that combined text, graphics, and input and typist output. In 1994 a special issue of a newsletter created by Maple developers called Maple tech was published. In 1999, with the release of Maple 6. Maple can also can operate with large numbers including accurate calculations as result. The system consists of great potential and graphic media. Maple have big history versions. Such as the first version released on 1982 Maple 1.0. The first version doesn't contain a lot functions. After a few months released new version Maple 1.1. On May 1982 Maple 2.0 released.

2.3. The supporting features of Maple software for secondary school students:

There is list of software that helpful during learning Math by using software to our laptop. But I want to tell here about "Benefits of Maple". Why we should use Maple? Why we need to learn math by using software? Why I give suggestion to Dushanbe secondary school, that using software during learning math is helpful? There are a lot of applications that we can solve our complex and as we know there is a lot of benefits of using Maple software to find solution. By using Maple, we can learn free, widely, improve our grades. Maple is powerful software that can improve our grades. By using Maple, we can draw graph and find solution easily and fast. We can save our time and increase our confidence. Why it can increase our confidence? By using Maple, we can check our solutions, and develop our intuition through visualization and exploration, so we can be confident in our understanding. By using Maple, we can check our answers to assignments and practice problems, whenever we don't know that if our result is correct or incorrect. Whenever we get the wrong answer through our solutions, then we can improve our studies, and can try with different practice problems. Sometimes answer key of the book is wrong, by using Maple software we can get the 100% correct answer, that we can improve our studies and knowledge more. Maple is used in aerospace, robotics, medical research, green energy projects, and a whole lot more. Today, Maple can be our helper software to not waste time and to be succeed in our courses. How we can save our time by using Maple software? First of all, by using it we can check our steps, so we can identify the foundation of the wrong answer in our derivation faster, and be avoid about frequently calculating that we actually found our result. Maple has huge amount of interactive tools considered specially to help us visualize and explore mathematical concepts more successfully than we can learn from a statistic textbook or whiteboard. Sometimes we need the correct answer to problem, and neither we don't know how we get the answer. Maple can show it step by step and give us answer if we have complex problem that we can't solve it or we don't understand the way how to get the answer and be improved. We can also by using clicking camera mode we can enter homework to Maple application, that we can bring homework problems into Maple easily. We just need



to scan through our homework problem and use camera to enter through Maple application. Maple application also offline mode are available that we can use it without internet. Some application need internet to find your solution on net, but maple can work without no internet. Just need to update application, if there is notification about updates There is something we should also know about it. If we spend our time to solve every math questions on a paper, it will take a long time to spend. By the using Maple software, we can solve a lot questions during a few minutes. Imagine if we want to check about percentage of every results, we will spend our energy and time. In this way the computer results, can be easily modified. While we solving mathematical problems, we need to analyze our solution on a graph. By the using Maple software, we can easily change the coefficients, range and domain, to find out how it is going to be change our graph. There is one thing more! “what is that”? if we don’t occupy with computers and good mathematical programs. Every schools need organized with new technologies and programs.

2.4. Lack of Maple software Implementation:

PC mathematical classifications such as Maple have massive prospective for converting the education of Calculus. Addition of new using Maple aspect the new courses to balanced and get free of lack of time. Most of time teachers, have a lack of time. During lectures, they can’t control the limitation of time and teaching schedules. Most of teachers have lack of time during teaching mathematics. During mathematic classes, there are more than 26 students in each 45 minutes. And every time teachers can’t control the time and still do the same procedures and graphing during mathematic education. So most of teachers, needed to know and get knowledge about using ICT in teaching methods and schedules. Maybe the new user of Maple they can have a lack of knowledge on using software. After the classes teachers need to have presentation before teaching stuffs, and get know the procedure of using maple software. Maple have possibility to be our guide and give us to distinct purposes. And using Maple can balance the lack of time during classes, and give us free usage and fast solving problems. Here are two distinct purposes:

- As a learning instrument: Maple has the prospective to make it easier to understand for teachers and students to concepts of calculus problem, it will make it easier for graphically and arithmetical solutions.
- As a problem-solving tool: Maple can solve the complex and more difficult problems, and can give us hint of the real results, and allowed to the concept calculation of methods.

Whenever we have ability use of maple, it will make our solution of problems easier and get the complex equation the real answers, it also helps to teach and learn calculus, will make it simplifier and easy to understand for both of teachers and students.

2.5 Improving communication between teachers and students:

Communication between teachers and students are not only listening, following, reading, talking. For best skilled teaching need to be clever and use the effective way. Good communication with students make the class easier and understandable. Effective communication is very important for all teachers. Another thing we should know how to control the students and simplify every difficult thing. Sometimes students can face with difficulties, they will not capable with that difficulties, then start to hate the classes. During the past decade, mobile communication technologies such as laptops, tablets, and cellular phones have moved from expensive novelties to common gadgets used in everyday life. On the other hand, technology possesses potential to enhance student learning. As Plymale (2007) noted, not only can technology improve traditional instructional media (e.g., replacing chalkboards with presentational software such as PowerPoint), but also new technologies allow faculty “to explore new means of student collaboration, to provide complex modelling and virtual experience opportunities, to study simulated and informal learning techniques, and to enhance students’ research capabilities” (p. 85). Many teachers and students are so familiar with social media. One of the famous social media in Dushanbe city is Facebook. Facebook can be used for private communications. Can be used for creating groups. By using Facebook teachers can create their own group to announce or teach students. Teachers can keep in touch with students. Teachers can improve the student’s difficulties by using Facebook. According to Freire (1970), in the traditional teaching model, so-called banking education, the teacher is the one with knowledge and students are the ones who learn. By using Facebook groups, teachers and students have the opportunity to become partners in learning, not only for a given moment, but also for longer times, having the possibility of creating a sustained community of learners. Humans are born with the ability to vocalize; but not with the knowledge, attitudes, and appropriately is learned and, therefore must be taught. Communication education improves special skills. Good communication is very important for all human being. My idea about reading June E. Downing book “Teaching Communication Skills”, he mentioned that we don’t need to show our force or angry side to students. Students easily to lose his ability and interesting side from their learning subject. Teachers always be kind, soft, simplify their difficulties, no need to shout, show their serious face. Smiley face and good communication make students learn faster and feel free during classes. Teachers need to make a plan



about his behaviour and his kindness front of mirror. Should have soft communication with all students. Must see all students with same eyes, don't push them down. I know some teachers can't be so kind. The school is a unique social system for all students. The best purpose of school is to educate and teach students. The school is an essential and important social organization for all students. Without no good education, you can't build your future. Teachers need to keep in touch with student's parent, need to report weekly performance about their kids. All straggles for teachers need to have good communication with students. Parents and teachers usually report lack of time as the most important communication barrier. Teachers should tell about their negative and positive side to their parents. Don't need to secure their negative side. Teachers should report their negative side to their parents. Parents also get it seriously and solve their kid's problem side. Most students not educated by their parents. 60 percentage of student's good communication start from their parents. Parents should lead their kids and give them good education how to communicate with their teachers. Should listened to their teachers during classes. Bad behaviour of students starts from their family. If the family don't give good education for their kids, after that they can't have good communication with their teachers. Many teachers use daily communication books to share information with their parents. Two-way communication can appear when teachers and parents talk with each other, by calling or face to face. One popular communication method is phone call home. Every teacher should have the parents phone number. If the students have some difficulties about their studying or behaviour, teachers can easily reach them. Use the SOLER technique can help teachers have a bright conversation and ensure good listening skills. S- means Square posture, O- means open position, L- means Lean toward, E- means eye contact, R- means Relaxed position.

3. RESEARCH METHOD:

By the meaning of methodology, we can understand collection of methods, procedures of research that we used on research methodology. The supplementary parts insure the strategies operated in this report: This study was conducted from August to February 2022 in Tajikistan. This study aimed to find out benefit of teaching mathematic using Maple software. The design used in this study is converging, simultaneously collecting quantitative and qualitative data, combining the data, comparing the results, and explaining all descriptions in the results. Researchers collected qualitative data through closed interviews. This design aims to explain the quantitative outcome with the qualitative data to see if they are converging and provide similar results. Quantitative and qualitative data are collected simultaneously and analyzed to complement each other. I spent enough time on reading different journals, blogs, online newspaper, and articles which are related to my topic. This helped me to design different question for survey to explore different views from the respondent. This study aims to find out teacher and student competence and skills when they get education on Maple software.

3.1. Type of research:

This research based on qualitative and quantitative methods. This study uses both quantitative and qualitative methods. Quantitative methods are research methods focused on the philosophy of affirmative used to observe exact populations; data collection uses investigation tools. Qualitative research is a background practice in which the researcher is placed in the situation. The purpose of qualitative research is to discover different ideas on secondary school of Dushanbe. Data collection method will be free forms. Mostly used in exploratory research design. For quantitative research purpose should be hypothesis test or special research questions. Data collection method based on response categories. Mostly used in descriptive and causal research design. Qualitative characteristics of the study: determines the event, divides complex issues into smaller parts.

3.2. Setting and participant:

The study population will focus on students and teachers in Secondary-school of Dushanbe city in Tajikistan. This study took place in secondary primary schools of Dushanbe city. The participants in this study are 35 currently employed teachers. This study will consider the students in secondary primary school who learning the mathematics subject. The purpose of this study was to assess the benefit of teaching mathematic using Maple software at public primary schools in Dushanbe by considering the amount of students learning at school when the use technology and learn math.

3.3. Research population and sample:

The term "population" refers to the number of people in a given territory (settlement, district, country, or region of the world. Teachers around 25-50 years of age and got experienced around 5-15 years. The analysis consists more than 200 understudies. Students around 14-18 age have a part at this questionnaire. The level of balance in distribution included, gender, Scientific and technical experiences.

3.4. Data collection and analyses:

Data collection for the online survey were with Questionpro.com. I used this website to collect my data. For learning and describing the features that is usable for education tools in teaching mathematic. The goal line of the



accompanied survey reached to 33 teachers and 100 students from different secondary schools randomly. The type of collected data was qualitative and quantitative. To reach the achievement of survey target used 2 kind categories of inventors: students and teachers. The data were collected from different secondary school of Dushanbe randomly. The questionnaire was easy and understandable to students and teachers. They were got new information from questionnaire. Questionnaires in this study have delivered alternative answers so that respondents chose. The testimonial in this questionnaire was developed using a Likert Scale with five different responses, namely response that were never given a score of 1, rarely given a score of 2, sometimes given a score of 3, often given a score of 4, and all the time given a score of 5. The second stage is a survey divided to 2 alternative answer choices: no given a score of 1, yes given a score of 2.

One way collected the data: the surveys were taken twice and used the Likert scale to collect and analyse the data. The first survey is used to gain information about capabilities of maple software to Secondary Mathematic education. In the first survey, we used a 5 scales to ask the agreement about the statements in the questionnaire. Because those were positive statements, the score was set as follows:

Statement	Score
All the time	5
Often	4
Sometime	3
Rarely	2
Never	1

The collected data is then analyzed by the formula below:

$$\text{Total score}/\text{maximum score} \times 100\%$$

The second survey was used to understand the level of parental engagement based on teacher perception. In this part of the survey, we used three scales to ask about the level of parental engagement. The score is set as follows:

Categories	Score
Yes	5
No	1

The collected data is then analyzed by the formula below:

$$\text{Total score}/\text{maximum score} \times 100\%$$

The first part of the interview was on capabilities of maple software to Secondary Mathematic education. These perspectives are described about maple software. The second survey was used to understand the level of contribution of maple software to secondary mathematic education. Teachers utilized interviews to summarize their survey results, offer particular instances of what they had observed or experienced, and explain perceived limitations to successful using technology. After doing the comparable study, external qualitative researchers assessed the interview procedure. Before analysis, participants were asked to review and confirm the correctness of the transcripts.

4. RESULT:

The surveys are taken online from eighteen elementary school teachers twice. The first part of the interview was on capabilities of maple software to Secondary Mathematic education. Based on Maple software and using technology during classes. Those points were then spelled out into 15 indicators. They responded to 15 items of capabilities of maple software to Secondary Mathematic education. The results are listed in table 4-16 below:

Table 1. Capabilities of maple software to Secondary Mathematic education

Capabilities of Maple software	Response (%)					Standard Deviation
	All the time	Often	Sometimes	Rarely	Never	
Collecting information for	1	3	33	10	53	



preparing lesson						1.019
Using computers and internet during classes	8	29	21	29	12	1.178
Using computer	4	37	30	20	10	1.049
Provide teachers with laptops	7	18	22	18	35	1.308
Provide students with laptops	7	26	18	17	33	1.354
Collect resources from internet	9	18	23	35	15	1.186
Digital learning materials	10	13	43	17	18	1.172
Preparing tasks and exercises for students	8	21	23	36	12	1.153
Post homework on school website	4	39	26	17	14	1.129
Communication with parents	14	18	45	12	11	1.138
Download materials from school website	9	14	49	16	12	1.061
Download materials from learning platform	7	15	49	15	13	1.059
Communication preferences	12	23	19	32	14	1.254
Online professional development opportunities	15	43	23	10	10	1.152
Rewarding student behavior	15	56	13	10	5	1.027

Following up on the objectives of the Tajikistan Ministry of Education to introduce information and communication technology (ICT) into the education system in general and in teaching mathematics in particular, and with the fact of its lack of use, and as most students have difficulty in solving mathematic equations, graphing, find the solution of difficult questions. We chose this educational project intending to propose solutions that could help solve the problem of insufficient tools used by teachers and their students. Indeed, the proposed solution will be a software called Maple, of which we will solve the mathematic questions and save time. We will pose the problem on which this study is based, and present the statistical results obtained from two questionnaires distributed to a population of more than 100 students and 35 teachers.

5. CONCLUSION:

The effectiveness of using computers in teaching and learning activities indicates that computers can be used effectively to improve mathematics learning. Thus, it becomes important for a teacher to integrate computers in improving the quality of learning, especially mathematics in the classroom. However, teachers must understand the various characteristics of media supported by technology and be able to use operational methods. The Maple application program is able to perform mathematical computations easily and quickly without requiring a mastery of a certain computer programming language, so even people who do not master computer programming languages will be able to use this Maple program. Maple software programs can help in working on a mathematical problem or problem, ranging from algebraic operations to defining a number and integral. With the Maple program, you can save time,



because with this program in just a matter of minutes or even seconds, an integral material problem can be solved easily. This study was conducted for the purpose of determining the status of teaching and learning Maple software for secondary primary school of Dushanbe. During collection of data I realized that most of students and teachers are available to use technology and ready in positions of admission to knowledge involvement in Maple education courses. Secondary school of Dushanbe are not changed the system to online courses. The students and teachers must have attended offline courses. By the having problem for their health maybe the learners of subject disqualified from offline courses. Motivation for participating in Maple courses have improved. Most of them they like to have participate at this courses. Here is the sample of Capabilities of Maple software to Secondary Mathematic Education. At this statement 74% respondents are age of 14-18, whom studying and learning Math in secondary school of Dushanbe. It consists of 100 students with male and female gender. 88 are male and 49 are female. Which is the male gender percentage of learners Math courses being more than female gender, Math is very difficult subject that most of girls don't like to attend math courses. Rest of 35 are teachers are the age of 25 up to 40 years old. Most of old teachers don't have ICT skills. Most of them using like old method of learning Math. Using whiteboard or lectures, presentations. The significance of teacher and student show that, most of them are familiar with software.

REFERENCES:

1. Alrajeh, T. S., & Shindel, B. W. (2020). Student Engagement and Math Teachers Support. *Journal on Mathematics Education*, 11(2), 167-180.
2. Naidu, S. (2006). *E-learning: A guidebook of principles, procedures and practices*. Commonwealth Educational Media Centre for Asia (CEMCA).
3. Shahraki, A., & Heidarzadegan, A. (2017). Feasibility Study of Implementing the E-Learning-Teaching System in Secondary Schools. *International Journal of Economic Perspectives*, 11(3).
4. Watkins, R., Leigh, D., & Triner, D. (2004). Assessing readiness for e-learning. *Performance Improvement Quarterly*, 17(4), 66-79.
5. Rabardel, P. (1995). *Les hommes et les technologies; approche cognitive des instruments contemporains* (p. 239). Armand colin.
6. Shahraki, A., & Heidarzadegan, A. (2017). Feasibility Study of Implementing the E-Learning-Teaching System in Secondary Schools. *International Journal of Economic Perspectives*, 11(3).
7. Wilhelm, L. A. (2002). *Virtual learning from the Iowa high school student perspective*. Iowa State University.
8. BRIANT, N., & BRONNER, A. (2015). Étude d'une transposition didactique de l'algorithmique au lycée: une pensée algorithmique comme un versant de la pensée mathématique. In *Actes du Colloque EMF2015-GT3* (pp. 231-246).
9. Summak, M. S., Bağlıbel, M., & Samancioğlu, M. (2010). Technology readiness of primary school teachers: A case study in Turkey. *Procedia-Social and Behavioral Sciences*, 2(2), 2671-2675.
10. Acikalin, A., & Turan, S. (2015). Okullarda etkili iletisim [Effective communication in schools]. *Ankara: Pegem Academy*.
11. Caron, F., Muller, E., Adihou, A., Graves, B., Moisan, P., Bednarz, N., ... & Traore, K. (2004). L'intégration de l'application et de la modélisation dans les mathématiques au secondaire et au collégial Integrating Applications and Modelling in Secondary and Postsecondary Mathematics. *CANADIAN MATHEMATICS EDUCATION STUDY GROUP GROUPE CANADIEN D'ÉTUDE EN DIDACTIQUE DES MATHÉMATIQUES*, 63