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Research on the application of IT in teaching Mathematics for students

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ABSTRACT

The use of information technology in teaching preparation will assist students and teachers in creating lessons more effectively than students absorb vivid visual knowledge to help them actively learn. Additionally, during lectures on electronic lesson plans, challenging content, such as positive funds and geometric extrema, needs to be illustrated with vivid models or drawings so that students can understand. Testing by machine helps to form knowledge, practice skills, and develop students' thinking because of its faster and longer memory mixed with logical reasoning and illustration.The ability to graphically portray by graphing and moving visuals – animations, etc.) aids students in understanding the lesson faster and more readily by making abstract features of mathematical objects and challenging subjects more understandable. Students are developed and schooled in a scientific working style, including the values of autonomous learning, initiative, and creativity in self-study and self-training, through the use of IT in lectures. When IT is used in the classroom, kids learn how to use computers for the purpose of learning, becoming more accustomed to modern culture high-powered work habits in the modern day.

Keywords:Information Technology,Mathematics,Teaching

1.INTRODUCTION

The practice in our nation has supported the significance, efficacy, and influence of the use of information technology in the classroom, and it is now an unavoidable trend in education. In order to encourage the use of technology in teaching at schools, Dien Bien Education and Training has put in place a number of managerial and directional measures over the years [1]. Up until this point, the infrastructure and instructional tools required for the application of information technology have been purchased, the Internet has been connected, and the majority of schools have computer labs that are outfitted in accordance with Ministry of Education and Training standards.Fully functional projectors for teaching and learning; PowerPoint lectures, reference materials, and electronic lecture notes are created online on the industry website, and numerous management and teaching-supporting programs are extensively used[2]. The teaching environment has altered as a result of the involvement of IT, having a significant impact on all aspects of the teaching procedure and affecting the development of innovative teaching techniques for mathematics. Examples include assisting students in developing a deeper understanding of subject matter, practicing skills, consolidating and reviewing prior information, developing mathematical thinking, and experimenting with new ways to teach mathematics. By combining study and enjoyment, playing math games online can help kids become familiar with computers and make good use of the Internet.Although the Math Play page employs English, the vocabulary used in the games and quizzes is quite basic and simplistic[3]. Students have been assisted to gradually improve thinking abilities, exercise techniques and logic, practice observation, guess, and investigate thanks to the use of information technology in math classes. Through computer software, encourage independent thought, develop the self-study process, and self-own information. Information technology teaches math in a gentle, vibrant manner. While imparting and absorbing knowledge, it is an extremely crucial role for teachers and students.

2.IMPORTANCE OF INFORMATION TECHNOLOGY

Information technology promotes an open education, helps people access multidimensional information, shortens distances, narrows all spaces, and saves optimally on time[4]. Since then people have grown faster in knowledge, perception and thinking. Information technology facilitates learners to learn and acquire knowledge flexibly and conveniently [5]. People can self-study anytime, anywhere, can participate in discussing an issue where each person is far away from each other, contributing to creating a learning society where learners can study throughout the day. life.

Besides, with the convenience of learning anywhere, anytime, information technology will create opportunities for learners to choose their favorite topics, suitable for each person's aptitude, from That develops according to the strength of each person due to the different structure of the cortex sub -areas. That will promote the development of talents. At present, educational reform must shift the education system mainly from imparting knowledge to developing learners' capacity [6]. That is done by helping learners self -study and solve problems. In particular, the transmission of knowledge will gradually be undertaken by information technology so that teachers and teachers have more time to help students solve problems and organize related learning activities. With practice to develop students' capacity [7].

Therefore, when it comes to the role of information technology in education, we must mention the creation of flexible learning space and time. In addition, with the convenience of learning anywhere, anytime, information technology will also create opportunities for learners to approach and choose the right problem for themselves so that they can develop according to their strengths. mine. E-learning is a form of education and learning based on the connection of the internet. Instructors and students can both participate in classes opened on the system through a tablet computer or smartphone with an internet connection [8]. When logging into the system, the space is organized as a classroom, teachers can directly teach learners or assign assignments, store lectures, learning materials in different formats such as Word, PDF, Video, etc. Today's trend of education and training is that training goes hand in hand, vocational training for career guidance is becoming increasingly popular among universities around the world in general and Vietnam in particular.

The fact that learners have access to technology applications right from the time they are at school will help them practice practical skills, work in a technology environment, and soon integrate into the working environment when they graduate. New technology requires certain skills as well as understanding of technology. In fact, not only digital skills, learners are also trained in soft skills, critical thinking, independent research ability, and proficiency in using technology, so they can quickly meet the requirements. urgent questions of professional practice [9]. Therefore, the application of information technology in education has a direct impact on high-quality human resources for enterprises, facilitating the expansion of labor cooperation. The labor cooperation in the market will create a link between the school - business - learners, bringing benefits to all parties: For learners, they are committed to recruiting right after graduation.For the school, it will enhance its brand, reputation and position in the education market, and increasingly attract learners. For businesses, this model will help them proactively have well-trained human resources according to the requirements of the business.

3. APPLICATION OF TECHNOLOGY IN TEACHING GENERAL SUBJECTS

Technologyapplication in teaching is the use of achievements of science and technology in education, helping learners take a more active role. This has changed the traditional one-way education, no longer the situation where the teacher is always the one who lectures and asks questions, while the students only answer and take notes mechanically.

Powerpoint: Powerpoint is software that has been used for a long time, allowing users to edit on existing graphic templates or create their own. Lectureswilleasilyintegratevideos, images, etc. to helpillustratemorevisually and attract learners.
Canva: Canva contains ready-made graphic templates on many different topics, and also has videos, images, GIFs, etc. to illustrate the lesson. Users can store lectures right on Canva or download them as Powerpoint.
myViewBoard: myViewBoard allows users to use a huge store of videos, images, GIFs without worrying about copyright issues. Besides, the platform also allows to create interesting games, helping to attract and increase the interaction of learners.
In addition, the application of technology in classroom management has also been strongly used in recentyears.
Schoology: Software that allows building records, managing lectures of teachers as well as assignments of learners. In addition, Schoology also creates a social network that helps teachers and learners share knowledge, skills and interact with each other outside the classroom.
Moodle: This system helps send notifications from the school to learners quickly. Besides, it also provides features such as score statistics, assigning assignments, posting lessons, creating tests, surveys, surveys, etc.
myViewBoard: myViewBoard is a management platform that helps assess the participation level of each learner, capable of dividing groups for learners to exchange and discuss with each other.
In addition, learners can raise their hand every time they want to speak, the system will send a notification to the teacher.Lectures will be designed to be more intuitive and lively, so that learners can easily relate to reality and be absorbed in the lesson[6]. Thereby, learners will actively visualize and remember the content of the lesson, and at the same time participate in the interaction and construction of the lesson, helping to understand the lesson better. On the other hand, teachers and learners can no longer only meet each other in class sessions, but can exchange through forums, class groups, etc. When the class lectures are designed interestingly, it will help learners to interact regularly. more collaborative, from which the teacher can also convey better[7]. With technology, learners and teachers can join forums, groups, and classes to share knowledge and experiences. In addition, learners can pay to learn new knowledge from online courses, domestic and international online workshops.

4. APPLICATION OF TECHNOLOGY IN TEACHING MATHES

Applying information technology in teaching is an inevitable trend of the times when the world is going through a technology race. One of the subjects that the Ministry of Education and Training is interested in deploying IT application is Mathematics. This innovative educational method

helps students access knowledge more easily, and arouses in them a passion for Mathematics.

Mathematics is considered a dry subject, too abstract, requiring students to think, imagine, and logically. This is a difficult subject, sometimes too rigid with many complicated formulas, making students uninterested. The new teaching method by information technology is student-centered, helping them to be more active, continuing to learn. acquire knowledge faster, stimulate the development of skills and thinking. The interaction between teachers and students will accordingly increase significantly, no longer being "teacher and student copying" as before. From there, arouse interest in learning Mathematics, help children have a multi-dimensional, vivid view and acquire deeper knowledge. The use of information technology in teaching Mathematics has helped students gradually develop thinking, practice methods and logic skills, practice observation, guess and investigate. Promote the ability to think independently, create the process of self-study, self-own knowledge through computer software.

Math class by information technology takes place gently and vividly. It is a very important job for teachers and learners while imparting and absorbing knowledge. Applications not only help students learn more effectively, but also help teachers teach more effectively in an online, interactive environment, so that the lesson is not boring. The dry theoretical lessons will be more interesting when using simulation experiments, such as 3D images, or interactive virtual experiments on the application, helping students visualize more easily.

Mathsolver: This is an application that helps students solve grade 1, 2, and 3 math problems, even university problems, with many topics such as trigonometry, integrals, derivatives, etc. In addition to solving problems, applications The application also displays the results as a graph of numbers.
PhEt: A completely free website that simulates visual experiments in Math, Physics, Chemistry and other sciences, simulations that allow users to interact directly on it, for example learning about methods 2nd degree program, will easily explain about covariance, inverse, or learn about 3D geometry with x, y, z axes graphs displaying 3D images that are easy to understand.
Elephant Learning: Is a math learning software suitable for children from 2 to 16 years old. Here the software helps to find the weak points in math of the child and gives the types of exercises so that the child can correct those weaknesses. In addition, Elephant Learning is also equipped with a system of exercises from high to low to choose.
Prodigy: A math game, the game covers content from every major math topic and covers more than 1,400 skills from grades 1 to 8. As players compete in duels with characters from game, it borrows elements from role-playing games (RPGs) like Pokemon. To win, they must answer sets of questions.

6.SUGGESTIONS AND CONCLUSIONS

Optimistic predictions for the robust development trend of industrial physical, digital, and biological technologies For educators to reorient and practice, 4.0 will be a good premise and source of data. Validate the views as intended. Schools, educational institutions working in the field of educational technology in general, and teacher training institutes in particular, need to be ready to take advantage of and adapt to this situation's advantages in that context. advantages of technology,create a mechanism for schools to actively develop technology integration programs, allowing the use of connected handheld devices in the classroom/school, and overall system management based on technology [9]. Research and apply educational management models according to technology approach (IoT, Big Data, Blockchain), school management in the direction of openness, connection, sharing technology infrastructure, large database, and school management in the direction of connectivity.Innovate teacher preparation programs geared toward educators-users and technology developers.

Formulate and develop human resource training programs on educational technology, management of new educational technologies, integration of information technology and education in interdisciplinary/transdisciplinary programs. However, compared to the conventional way, each teacher must invest a lot of effort into preparation for the lesson and must possess strong professional credentials in order to deliver such a lecture to pupils. understanding of information technology and the capacity to apply it to lesson planning, building classroom lessons that are rich, vivid, logical, and creative, and maximizing the use of contemporary tools available at the school available.It takes a process of research, self-study, and self-improvement to perform this properly. This process should improve professional qualifications, experience, and excitement. Because if they do not have strong professional abilities and effective, creative teaching techniques, it's simple to mistreat others, which has the opposite effect on teachers' ability to teach and students' ability to learn.

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