MEASURES TO MANAGE THE APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN TEACHING IN HIGH SCHOOLS IN DON DUONG DISTRICT, LAM DONG PROVINCE TO MEET THE EDUCATIONAL DIGITAL TRANSFORMATION ERA

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Recognizing the importance of applying information and communication technology in teaching to meet the digital transformation era of education, over the years, high schools in Don Duong district, Lam Dong province has implemented many measures to promote the application of information and communication technology and management of the application of information and communication technology in teaching, initially achieving certain results. By 2021, all high schools in Don Duong district, Lam Dong province will be equipped with multimedia classrooms with full equipment for teaching and learning of teachers and pupils to meet the era of digital transformation of education. However, the management of information and communication technology application in teaching still has many limitations. From that situation analysis, the article has proposed a number of management measures to apply information and communication technology in teaching in high schools in Don Duong district, Lam Dong province to meet the digital transformation era of education. Through testing the necessity and feasibility of seven proposed measures, it was found that: the measures are highly necessary and feasible.

Keywords: *Information and communication technology application management; Managing information and communication technology applications in teaching; High schools; Don Duong district, Lam Dong province; Digital transformation era of education.*

1. Introduction

Entering the 21st century, mankind has been entering the era of information and communication technology along with the knowledge economy in the trend of globalization. Being well aware of the importance of applying information and communication technology in teaching, over the years, high schools in Don Duong district, Lam Dong province in order to meet the digital transformation era of education have deployed. Many measures to promote the application of information and communication technology and management of information and communication technology in teaching have initially achieved certain results. By 2021, all high schools in Don Duong district, Lam Dong province will be equipped with multimedia classrooms with full equipment for teaching and learning of lecturers and pupils to meet the digital transformation era of education. However, currently, in high schools in Don Duong district, Lam Dong province, the management of information and communication technology applications in teaching has not been paid enough attention, so the

effectiveness of technology application Information and communication in teaching is still limited. There are many reasons for this situation: teachers are not fully aware of the importance of applying information and communication technology in teaching and do not have enough basic computer knowledge and skills. The use of multimedia classrooms in teaching is concentrated only on a few teachers or mainly in thematic teaching hours, exercises, lectures or competitions for good teachers. Exploiting the use of the Internet to search for information and design materials for active teaching is still unfamiliar to many teachers. Some administrators have not been able to orient teachers to properly perceive the nature of active teaching plans with the application of information and communication technology and active electronic teaching plans. Investment in facilities for the application of information and communication technology in teaching has not been paid due attention... With the above reasons, the author has chosen to research the topic: "Management measures to apply information and communication technology in teaching in high schools in Don Duong

district, Lam Dong province to meet the digital transformation era of education".

2. Research overview

2.1. Foreign

The rapid development of information and communication technology has greatly influenced the educational cause of countries around the world, especially countries with developed education systems such as the US, Korea, Singapore, Taiwan and Japan... Therefore, they have been very interested in investing in information and communication technology, applying information and communication technology and managing the application of information and communication technology:

United State: Studies on the management of information and communication technology applications in education were carried out early, so e-teaching and learning has received support and support from the Government since the end of the decade 90s.

Japan: Developing a national program named: "Plan for an information society-national goals until 2000" on the application of information and communication technology to build an information society has been approved and published since 1972.

Korea: Clearly defining the strategic objective of the policy to promote computerization in Korea is to build a developed information society since 2000. To accomplish this goal, the Korean government established The "Information and Communication Technology Promotion Fund" is managed by the Ministry of Information and Communications. Correspondingly, there are two directing and coordinating bodies: the Computerization Promotion Committee and the e-Government Special Committee under the President's government innovation committee... (PCWardVN Magazine, 2008).

Singapore: In 1997 the Singapore Ministry of Education launched the Master Plan on Information Technology in Education. With this program, every child in Singapore is guaranteed the opportunity to access a school environment rich in information and communication technology. In July 2002, the Singapore Ministry of Education announced the Information and Communication Technology Master Plan 2 to inherit and build on the successes of the Information and Communication Technology Plan 1, continuing to deliver General guidelines for schools in taking advantage of opportunities information and communication technology brings to teaching and learning. It is thanks to the right investment and management steps in the development of information and communication technology that the above-mentioned countries have achieved the achievements of economic, social and educational development as they are today.

2.2. Vietnam

Application and development of information and communication technology in our country has been interested by the Party and State since the 1970s. However, the information and communication technology industry in Vietnam during that period was not interested. right level. Entering the renovation period, realizing the importance of information and communication technology, there have been many directives and resolutions of the Party emphasizing the promotion of information and communication technology such as: 58/CT-TW dated October 17st, 2000 of the Politburo emphasized: "The goal is that by 2010, Vietnamese information technology will reach an advanced level in the region and be widely applied in all fields, region, becoming one of the most important factors of socio-economic development, ensuring security and defense. Information technology has become a spearhead economic sector with the highest annual growth rate compared to other regions, with an increasing contribution rate to GDP growth of the whole country" (Politburo (Term VIII), 2000).

Directive No. 29/2001/CT-BGD&DT of the Minister of Education and Training, dated July 30th, 2001 states: "Promoting the application of information technology in education and training at all levels of education, level of study and discipline in the direction of using information technology as the most effective support tool for innovating teaching and learning methods in all subjects... Focus on developing computer networks serving education and training, connecting the Internet to all levels of management and educational institutions, forming an educational network".

Recently, conferences, seminars or in a number of master's theses in educational management, research on information and communication technology, have mentioned the problem of managing the application of information and communication technology in teaching as:

* The scientific conference "Research and implementation of E-Learning" co-organized by the Institute of Information Technology (Hanoi National University) and the Faculty of Information Technology (Hanoi University of Science and Technology) in early March 2005.

* National scientific conference on information and communication technology "Technological and management solutions in the application of information and communication technology in teaching method innovation" Hanoi National University of Education coordinated in conjunction with the Higher Education Project held from December 9th-10th, 2006 at Hanoi National University of Education...

* Master's thesis in educational management by author Dao Thi Ninh researching the topic: "Some management measures to apply information and

communication technology in teaching in high schools in Cau Giay district, Hanoi".

In seminars or theses, scientists and authors have boldly raised research questions about the position and importance of information and communication technology applications, especially solutions. management and application of information and communication technology in teaching.

Moreover, in the high schools of Don Duong district, Lam Dong province, so far, there has been no research to address the issue of Management measures to apply information and communication technology in teaching. The research and proposal of management measures to apply information and communication technology in teaching in high schools in Don Duong district, Lam Dong province in the current period is a problem that needs to be focused on solving.

3. Research methods

3.1. Theoretical research method group

3.2. Group of practical research methods

3.3. Other methods of support

4. Research result

4.1. Measure 1: Raise awareness for administrators and teachers about the importance of applying information and communication technology in teaching. Forming new awareness for administrators and teachers about active teaching plans with the application of information and communication technology and active electronic teaching lesson plans

Making administrators and teachers see the role, importance, activeness and effectiveness of the application of information and communication technology in teaching, so that each administrator and teacher determining the application of information and communication technology in teaching is one of the important tasks to meet the current trend of educational innovation.

Making administrators and teachers properly aware of the role of active teaching plans with the application of information and communication technology and active electronic teaching lesson plans in teaching, thereby creating consensus in directing the design and use of this curriculum.

The application of information and communication technology in teaching has just developed in recent years, but awareness of the importance of information and communication technology application in teaching, design and use active teaching lesson plans with application of information and communication technology and active electronic teaching lesson plans are still controversial. Therefore, the task of managers is to make the collective of educational officials, teachers, staff, pupils, departments and organizations inside and outside the school clearly realize the importance of necessity of applying modern science and technology in teaching. To do that, education administrators need to organize training courses for teachers to be deeply aware of and master the guiding documents on the application of information and communication technology in teaching innovation, transforming the regulated contents of the industry into the responsibility of each individual, requiring everyone to have a sense of self-discipline.

4.2. Measure 2: Organize training courses for managers and teachers in high schools on basic computer knowledge and skills. Develop a plan to create information and communication technology human resources for the school

Improving knowledge and skills in information and communication technology for teachers, creating human resources in information and communication technology to perform well the tasks and requirements set out in the fields of information and communication technology for schools.

From the school year 2018 - 2019 onwards, 100% of teachers in high schools in Don Duong district, Lam Dong province are proficient in using computers, modern teaching equipment, some types of teaching software, having skills in exploiting and searching for materials on the Internet, being able to design and effectively use active teaching lesson plans with the application of information and communication technology.

Teachers' computer proficiency plays a very important role in the application of information and communication technology in teaching because only when teachers have basic computer skills, they can compose a lesson plan. Active teaching project with application of information and communication technology. When applying information and communication technology in teaching, teachers need to know how to filter information, skillfully combine effects, images, sounds, colors... to highlight the content. What knowledge needs to be conveyed to pupils, how to make their teaching hours lively, attractive, exciting to learn and stimulate creative thinking in them.

4.3. Measure 3: Directing to improve teachers' ability to use some information and communication technology application software in teaching

Educators and teachers are able to use basic functions of some teaching software such as: Total Video Converter 3.12, Cabri, Mable, Study English 1.0, Crocodile Physics 605, Geometer's Sketchpad, AutoGraph, Imindmap, Violet. E-leaning, Mc mix…

Educators and teachers have the ability to use the above-mentioned teaching software to design electronic materials integrated into active teaching lesson plans.

For educators and teachers, it is difficult to learn and research to understand the basic functions of some teaching software and skillfully use those

functions in designing effective teaching plans. It is much more difficult to apply information and communication technology. An hour of teaching with an active teaching lesson plan with the application of information and communication technology, if the teacher simply uses presentation software, it cannot be called an effective application of information and communication technology in the classroom. The teaching process is only a change in the way knowledge is imparted to pupils because it can only be changed from the form of "reading – copying" to "seeing – copying", abusing information and communication technology. Therefore, school administrators need to consider improving the ability to use some teaching software for teachers as one of the most important tasks when conducting ICTs application management in teaching innovation.

4.4. Measure 4: Develop a process to design and effectively use active teaching lesson plans with the application of information and communication technology

Building a standard process applied to teachers of subjects in high schools can design active teaching lesson plans with the application of information and communication technology. Effectively use active teaching lesson plans with the application of information and communication technology. Designing active teaching plans with the application of information and communication technology. In order to build a standard process that applies to teachers of subjects in high schools who can design active teaching plans with information technology application, school administrators need to introduce introduce to teachers models of information and communication technology application in teaching. After the school has conducted training to improve the level of informatics and the level of use of teaching software for teachers, the next job is more difficult, which is how to help teachers apply these things. They learned how to design an active teaching lesson plan with the application of information and communication technology, how to use this lesson plan to organize teaching activities in the multimedia classroom to be effective tallest. Through field surveys in high schools in Don Duong district, Lam Dong province, it shows that, although many teachers have proficiently applied information and communication technology to teaching, all schools have not There is a unified process to guide teachers in designing active teaching plans with the application of information and communication technology. Therefore, the author has proposed the process of designing an active teaching lesson plan with the application of information and communication technology as follows:

First of all, each teacher needs to understand the nature of an active teaching plan with the application of information and communication technology:

Active teaching lesson plan with application of information and communication technology = active teaching lesson plan + application of information and communication technology at a basic level.

In order to design an active teaching plan, it must go through 4 stages:

* Stage 1: Determining the lesson objectives.

* Stage 2: Choosing equipment to teach them.

* Stage 3: Selection and coordination of teaching methods.

* Stage 4: Designing cognitive activities for pupils.

Effectively use active teaching lesson plans with the application of information and communication technology.

* Step 1: Prepare for lessons with active teaching lesson plans that apply information and communication technology.

* Step 2: Conduct teaching activities with an active teaching plan with the application of information and communication technology.

Step 3: Experiencing after-hours lessons with active teaching lesson plans with the application of information and communication technology.

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4.5. Measure 5: Increase investment in procurement of modern teaching equipment, build multimedia classrooms to effectively apply information and communication technology in teaching

First of all, administrators need to review all the modern teaching equipment that their school has, to check that these devices are still usable or not. Then, based on the specific requirements of the quantity and type of modern teaching equipment necessary for the construction of the school's multimedia classrooms, they make a list to buy. On the basis of the equipment to be purchased, the management staff estimates the cost to pay for the purchase of these equipment. In order to achieve the goal of increasing investment in purchasing modern teaching equipment and building multimedia classrooms, school administrators need to do the following things well:

* Develop a plan to effectively use the State budget and the school's training welfare to invest in and upgrade modern teaching facilities and equipment.

With the current conditions of high schools, in order to apply active teaching plans with the application of information and communication technology in teaching, it is necessary to focus a regular amount of funds to invest in procurement of equipment for the design and use of this type of lesson plan such as: new teaching software, image discs, data... Therefore, every year each school needs to make a purchase plan. detailed procurement,

timely administrative procedures to submit to all levels of management for funding. Price appraisal, equipment quality appraisal, contractor appointment and bidding should be done according to the correct process and should invite reputable consulting organizations to participate.

* Mobilize the community to invest in modern teaching facilities and equipment, build multimedia classrooms.

To do well in the socialization of education, to mobilize the community to invest in modern teaching facilities and equipment, and to build multimedia classrooms, schools need to focus first on propaganda and education. Raising awareness with teachers, pupils' parents, and organizations inside and outside the education sector about the importance of information and communication technology in current educational innovation, along with directing the implementation improve the quality of teaching, especially improve the effectiveness of teaching hours with the application of information and communication technology.

4.6. Measure 6: Direct the application of information and communication technology in testing and assessing student learning outcomes.

In the process of teaching, testing and assessing pupil's learning outcomes is an important step in determining the pupil's academic achievement and level of mastery of knowledge, skills, and application. Testing and assessment are two jobs conducted in a certain sequence or interwoven with each other in order to survey and consider both quantitatively and qualitatively the learning outcomes of pupils.

In order to well organize the enhancement of the application of information and communication technology in the examination and evaluation of pupils' learning outcomes, school administrators should direct and pay attention to the following:

- Organization of testing and assessment of teaching must be based on the teaching objectives of each subject in the high school.

- Introducing an objective multiple-choice test to assess pupils' learning results: you can check the knowledge learned at the beginning of the lesson or use the question system to emphasize the key knowledge in the lesson after each lesson. good content knowledge at the end of the article.

- Based on the test forms prescribed by the Ministry of Education and Training, Lam Dong provincial Department of Education and Training (objective multiple-choice or essay), unify the ratio of objective multiple-choice questions in each test type in all departments, subject from which to direct the topic in each specific professional group.

- Directing professional teams to compile review questions using multiple choice, especially subjects currently using 100% objective multiple-choice test such as: English, Physics, Chemistry and Biology arranged by chapter, each article leads to building a multiple choice question bank. Directing the information and communication technology department to collect multiple-choice mixing software.

- Directing the implementation of the school's website, designing the website, including a review to consolidate knowledge with a system of multiple-choice questions for each subject arranged from easy to difficult, with a specified working time. questions and answers, and announce the Web site for pupils to access and self-assess their learning results.

- Directing the application of information and communication technology to manage pupils' learning results: the school establishes a page to manage teachers' test scores in the school's intranet, requires teachers to enter scores. In accordance with the prescribed plan, the school leaders can easily manage the progress of the examination and return the papers according to the regulations of the industry to have a mode of praise and criticism, timely remind the teachers to complete or not complete the task.

4.7. Measure 7: Strengthening the examination and evaluation of the results of information and communication technology application in the innovation of teachers' teaching methods

Examining and evaluating the results of information and communication technology application in the innovation of teachers' teaching methods accurately to serve as a basis for making reasonable commendation and disciplinary decisions, thereby improving to raise the self-consciousness of teachers in the application of information and communication technology to innovating teaching methods. Examining and evaluating the results of information and communication technology application in teaching teaching innovation of teachers in an accurate and scientific manner will contribute to the success in management of school administrators. school on this matter. To be able to perform this task well, managers need to follow the following process:

Step 1: Determine the standard

Managers must determine the standards that each teacher needs to achieve when applying information and communication technology to innovating teaching methods, these standards need to be built on the basis of the school's reality in terms of modern teaching materials and teaching aids, the level of pupils. Management staff can evaluate the results of ICTs application of school teachers through the following criteria:

- Level of ICTs application in teaching: In order to evaluate this criterion, the management staff must strictly manage the teaching hours of the teachers by asking the teachers to register the high school classroom in the logbook managed by the device

staff. Monthly, must summarize and report to school leaders or administrators who can check teachers' ICTs teaching on the school's intranet system.

- The quality of each teacher's teaching hours is a very difficult criterion to evaluate because the management staff cannot attend all the teachers' teaching hours. Therefore, managers need to have many information channels combined with management measures to be able to evaluate objectively and substantively, for example, requiring each teacher at least in a school year to teach 2 lessons to fellow pupils.

Step 2: Measure achievements

Principals of schools need to establish an education quality accreditation committee to participate in the inspection process to ensure that they are required to collect timely, accurate and objective information. The Education Quality Accreditation Board consists of the following members: the principal is the head, the vice-principal is in charge of the profession, the deputy head of the committee and the members include the council secretary, the people's inspector and comrades. team leader and sub-group leader.

Step 3: Evaluate the test results

To perform this task, the management staff considers the conformity between the measurement results in step 2 compared with the standard system built in step 1. To do well in this step requires the management staff to have informatics knowledge and sensitivity to have the ability to correctly determine the results of applying ICTs in teaching method innovation of each teacher. From there, it is possible to make specific comments on whether their application of information technology in teaching method innovation is appropriate, inappropriate or completely inappropriate.

Step 4: Make an adjustment decision

Based on the results of ICTs application in each teacher's teaching method innovation, the management staff directed to make appropriate adjustment decisions as follows:

- Promoting achievements: If the application of ICTs in teaching innovation by teachers is in accordance with the standards, there should be encouragement, reward, typical replication in schools, and drawn into experience initiatives.

- Correction: If a teacher's ICTs application in teaching method innovation deviates from the prescribed standard and is not effective in teaching method innovation, he must frankly give suggestions and grasp so that they can make more efforts to meet the requirements of educational goals. In some special cases, if the management staff considers that the assessment standards developed in step 1 are not appropriate, they can adjust or have support for these teachers so that they can achieve good results. when applying ICTs in teaching teaching innovation. After

bending and repairing, it is necessary to measure and re-evaluate.

- Handling: If any teachers find that the results of ICTs application in teaching method innovation are not consistent with the evaluation standards, there are serious violations of the principles in ICTs application, the management staff need to make decisions intend to deal with these teachers in an understanding and reasonable manner.

5. Discussion

Although each measure has its own position and role, they are not separate from each other and only promote the highest effectiveness when synchronously implementing those measures. Therefore, in order to contribute to improving the quality of education to meet the current educational reform requirements, it is necessary to implement all seven measures as described above.

The proposed measures have been thoroughly surveyed, analyzed and evaluated. Initial results show that the proposed measures are necessary and feasible in accordance with the actual conditions of schools and the current development trend of education. However, in the future, it is necessary to conduct research on the following issues:

There are specific and detailed regulations and guidelines for the application of information and communication technology in teaching in schools, and consistency in understanding the concept of lesson plans with the application of information and communication technology and active electronic teaching lesson plans). Pedagogical schools or schools that have specialized training in pedagogy, have plans to improve the level of informatics and the ability to apply information and communication technology in innovating teaching methods for pupils. Consider this as one of the important criteria to consider graduation for pupils trained in pedagogy.

6. Conclusion

Managing the application of information and communication technology to contribute to the innovation of teaching methods in the current digital transformation era is an inevitable trend of schools. However, applying information and communication technology in teaching method innovation is not an easy job. If the application of information and communication technology is not reasonable, it will become an abuse of information and communication technology, leading to the ineffectiveness of the teaching process, not meeting the needs of educational innovation. Therefore, managing the application of information and communication technology in teaching in the context of digital transformation in high schools is one of the important tasks of teaching management. In order to avoid this situation, managers need to consider the management of information and communication technology application in teaching method innovation as a breakthrough to improve the

quality of education, thereby spending a lot of time, more effort for this job.

On the basis of research, analysis of theoretical documents on management of information and communication technology application in teaching in high schools. The author has focused on systematic research on the theory of management of information and communication technology application in teaching, researching on the current situation of application and management of information and communication technology application in teaching at high schools in Don Duong district, Lam Dong province. From the research results obtained, the author has proposed a number of management measures to apply information and communication technology to teaching in the digital transformation era in accordance with the conditions of high schools in Don Duong district, Lam Dong province in the current period.

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BIỆN PHÁP QUẢN LÝ ỨNG DỤNG CÔNG NGHỆ THÔNG TIN VÀ TRUYỀN THÔNG TRONG DẠY HỌC Ở CÁC TRƯỜNG TRUNG HỌC PHỔ THÔNG HUYỆN ĐƠN DƯƠNG, TỈNH LÂM ĐỒNG ĐÁP ỨNG KỶ NGUYÊN CHUYỂN ĐỔI SỐ GIÁO DỤC

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Nhận thức rõ tầm quan trọng của việc ứng dụng công nghệ thông tin và truyền thông trong dạy học nhằm đáp ứng kỷ nguyên chuyển đổi số giáo dục, trong những năm qua các trường trung học phổ thông huyện Đơn Dương, tỉnh Lâm Đồng đã triển khai nhiều biện pháp nhằm đẩy mạnh ứng dụng công nghệ thông tin và truyền thông và quản lý ứng dụng công nghệ thông tin và truyền thông trong dạy học bước đầu đạt được một số kết quả nhất định. Đến năm 2021, tất cả các trường trung học phổ thông huyện Đơn Dương, tỉnh Lâm Đồng đều đã được trang bị các phòng học đa phương tiện với đầy đủ thiết bị phục vụ cho việc giảng dạy, học tập của giảng viên và học sinh nhằm đáp ứng kỷ nguyên chuyển đổi số giáo dục. Tuy nhiên, việc quản lý ứng dụng công nghệ thông tin và truyền thông trong dạy học vẫn còn nhiều hạn chế. Từ phân tích thực trạng đó, bài viết đã đề xuất một số biện pháp quản lý ứng dụng công nghệ thông tin và truyền thông trong dạy học ở các trường trung học phổ thông huyện Đơn Dương, tỉnh Lâm Đồng đáp ứng kỷ nguyên chuyển đổi số giáo dục. Qua khảo nghiệm tính cần thiết và tính khả thi của bảy biện pháp đã được đề xuất thấy rằng: các biện pháp có tính cần thiết và tính khả thi cao.

Từ khóa: *Quản lý ứng dụng công nghệ thông tin và truyền thông; Quản lý ứng dụng công nghệ thông tin và truyền thông trong dạy học; Các trường trung học phổ thông; Huyện Đơn Dương, tỉnh Lâm Đồng; Kỷ nguyên chuyển đổi số giáo dục.*