

MANAGEMENT OF INFORMATION AND COMMUNICATION TECHNOLOGY APPLICATION IN TEACHING METHOD INNOVATION IN LOWER SECONDARY SCHOOL OF BAC NINH PROVINCE TO MEET THE REQUIREMENTS OF THE OVERALL GENERAL EDUCATION PROGRAM SITUATION AND SOLUTIONS

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Aware of the importance of applying information and communication technology in teaching method innovation, lower secondary schools in Bac Ninh province have implemented many measures and initially achieved some results. Through the survey, the author of the article mentioned the current situation of information and communication technology application in teaching method innovation, detailed analysis of strengths and weaknesses, thereby proposing a system of measures to using information and communication technology in renovating teaching methods in a substantive and effective way in order to improve teaching quality in lower secondary schools in Bac Ninh province.

Keywords: *Information and communication technology application; Management of information and communication technology applications; Innovating teaching methods; Lower secondary schools; Overall general education program.*

1. Introduction

Currently, in the world as well as in Vietnam, teaching method innovation is taking place very strongly along three main trends: positivity, individualization and technology to contribute to improving the quality of teaching. In all three of these trends, it is necessary to make good application of information and communication technology.

Aware of the importance of applying information and communication technology to contribute to the innovation of teaching methods, secondary schools in Bac Ninh province have implemented many measures to promote the application of information and communication technology in teaching method innovation and initially achieved some results. As of the 2020-2021 school year, all secondary schools in Bac Ninh province are equipped with computer rooms, multi-function projectors for students to study and use by teachers. All junior high schools have websites that are effectively used in management. However, the application of information and communication technology in teaching in general and in secondary schools in particular is still very difficult and its effectiveness is not clear. There are many reasons leading to this situation, including those related to management: some administrators have not oriented teachers to fully understand the role and meaning of the application of information and communication technology in teaching contribute to the innovation of teaching methods; Teachers do not have basic computer knowledge and skills. Some teachers do not fully understand the nature of active teaching lesson plans with the application of information and communication technology and active electronic teaching lesson plans, leading to the abuse of information and communication technology in teaching. Another reason is that the funding source for investment in purchasing modern teaching equipment and building infrastructure for the application of information and communication technology in teaching is still limited.

With the above reasons, the study: "Management of information and communication technology application in teaching method innovation in lower secondary schools of Bac Ninh province meets the requirements of the overall general education program" is valuable in terms of theory and practice in managing the application of information and communication technology in renovating teaching methods in lower secondary schools and improving teaching quality in junior high school of Bac Ninh province in the current 4.0 revolution context.

2. Research Methods

2.1. Group of theoretical research methods

- Researching the Law on Education, documents of the Party and the State on the orientation of education and training development; Orientation to develop the application of information and communication technology in teaching.

- Researching documents of the Ministry of Education and Training, Bac Ninh Department of Education and Training related to teaching equipment, innovation of teaching methods, application of information and communication technology in teaching.

- Researching scientific documents related to the research problem.

2.2. Group of practical research methods

- Survey method by questionnaire: Through polls, find out the perceptions and aspirations of administrators, teachers and students to collect information on the current state of technology application management information and communication in teaching in research secondary schools.

- Expert method: Get opinions from experts in the field of information and communication technology application management in teaching.

- Complementary methods: Directly attend some teaching hours with the application of information and communication technology; conduct interviews with students, teachers and administrators; Draw comments on the management of information and communication technology applications in teaching in lower secondary schools.

2.3. Other methods of support

Using mathematical statistical methods in processing survey data.

3. Overview of the problem research

3.1. Foreign

America: Information technology – especially the Internet, began to be used in the United States in 1995 (Wiles and Bondi, 2002) and then began to spread widely around the world.

Australia: In March 2000, the Council of Ministers supported the direction outlined in the document "Strategic Structures for the Information Economy", which includes two overarching school education objectives. for the information economy.

Canada: Currently, Canada is a developed country of high technology, media, entertainment and art. Canada uses high technology in almost all areas of

activity and is a pioneer in the fields of information technology, computers, telecommunications, transportation, engineering, aerospace, urban transport, microelectronics, electronics, medical instruments, high-end software...

Japan: Developing a national program named: “Plan for an information society - national target to the year 2000” has been announced since 1972.

Korea: E-government activities and ICT applications are distinguished: Projects involving many ministries, branches and localities are considered as e-government projects using centralized budgets.

Singapore: In 1981 passed a National Informatization Act that specified three tasks: First, to implement the computerization of all administrative work and activities of the Government. Second, coordinate education and training in informatics. Third, develop and promote the information technology service industry in Singapore.

Philippines: The Philippines’ National Information and Communication Technology Plan published in 1989 defines a common strategy to bring information and communication technology to the service of the country’s socio-economic development in the 1990s.

Taiwan: In 1980 Taiwan’s computer policy was announced and the “10-year plan for information and communication technology development in Taiwan” mentioned the organizational structure of information and communication technology, domestic communication and what the Government needs to do to develop information technology and continue to successfully compete in the world market.

3.2. Vietnam

On August 27, 2010, the Prime Minister signed Decision No. 1605/QĐ-TTg approving the National Program on information technology application in the activities of State agencies in the period 2011-2015 with a total investment of more than 1700 billion. There are also 20 national projects on information technology application approved by the Prime Minister.

In Education and Training: From the 2008-2009 school year, it was selected as the school year with the theme: “School year of information technology application and financial management innovation” showing that the Ministry of Education and Training has been very important. interested in the application of information and communication

technology in schools through the Directive on the tasks of the school year... In the following school years, the Ministry of Education and Training continues to direct: “Promoting technology application information in education management, unified state management of IT application in Education and Training...”

In recent years, the application of information and communication technology in the management and organization of teaching activities has been interested in research by many scientists. Scientific conferences and seminars on information and communication technology have mentioned a lot about the management of information and communication technology application in education and its applicability in the Education and communication environment. Training in Vietnam such 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 is the first scientific conference on the application of information and communication technology in the education system to be held in Vietnam.

- National scientific conference on information and communication technology: “Technology and management solutions in the application of information and communication technology in teaching method innovation” organized by Hanoi National University of Education. In collaboration with the Higher Education project, held from September to December 10, 2006. The main content of the seminar discussed: Technology solutions in teaching method innovation (school, university and graduate school), strategies for developing information and communication technology applications in teaching method innovation. teaching method.

On December 22, 2015, in Da Nang, the Department of Information Technology (Ministry of Education and Training) held a seminar on “Strengthening the application of Information Technology to meet the requirements of fundamental and comprehensive innovation in education and training”.

In the seminars, scientists and managers raised research issues, position importance, application and development of information and communication technology, especially solutions to promote

application. information and communication technology in education.

In recent times, there have been a number of master's of science theses on management and application of information and communication technology in teaching method innovation in high schools in our country which have been successfully defended.

Through the research, the authors confirmed the significance of the application of information and communication technology in teaching method innovation and the important role of management measures.

4. Actual situation of information and communication technology application management in teaching method innovation in lower secondary schools of Bac Ninh province

4.1. Manage the construction and use of multimedia classrooms

As of the 2020-2021 school year, 100% of high schools in Bac Ninh province have built multimedia classrooms, but the effective use of multimedia classrooms is only 55% of the total number of schools.

4.2. Manage the use of teaching software and Internet access effectively

Currently, there are no specific regulations on the management of teachers exploiting information on the Internet. This is a problem that administrators of lower secondary schools need to pay attention to and take reasonable measures to overcome.

4.3. Manage the design and use of active teaching lesson plans with the application of information and communication technology

Planning work

The Education and Training Departments have issued documents guiding the application of information and communication technology in schools for each school year. All schools have based on the guiding document to plan the implementation of information and communication technology application, as well as the preparation of active teaching lesson plans with the application of information and communication technology. plan to organize lectures and competitions on degree teaching as well as to prepare active teaching lesson plans with the application of information and communication technology, propose measures to implement that plan, at the same time, there is a plan to purchase modern teaching equipment and put the design and use of active teaching plans with

the application of information and communication technology into the emulation and reward criteria. However, the plan has not really followed the actual situation in terms of pedagogical capacity, computer skills of teachers and school facilities in general, and modern teaching equipment of the school in particular.

Implementation organization

The implementation stage of the schools has not been agreed. At the same time, the process of designing an active teaching lesson plan with the application of information and communication technology does not have specific instructions, school administrators are still confused in the organization and implementation stage. planning to train teachers in information and communication technology applications, purchasing modern teaching equipment to the stage of combining and coordinating resources.

Directing work

Consistent direction from professional steering agencies has been ensured. The Departments of Education and Training have advised the People's Committees of districts and cities to finance the construction of the Portal, linking to the websites of all schools in the area. Directing teachers of schools to actively put up lesson plans, especially lesson plans and contests. However, there are still obstacles and inadequacies such as the orientation for teachers on the design and effective use of active teaching lesson plans with the application of information and communication technology. How is the classroom teaching? Teach what? How is the essay? Ideas and how to design? Many refresher courses on designing active teaching plans with information and communication technology applications for teachers have not been organized yet.

Test and review

Evaluation is a very important activity in management work. The management staff of the schools have set out right from the planning stage and organized the implementation through lectures, time attendance or contests... However, the adjustment, correction and shaping of the design. and using active teaching lesson plans with the application of information and communication technology has not been effectively implemented. Due to the fact that many times, there are launching, planning and organizing implementation, but not paying attention to the stage of summarizing and drawing lessons from the implementation process.

General comment

Managing teachers' lesson plans is one of the important tasks of school administrators. The results obtained when conducting a survey on this issue in junior high schools in Bac Ninh province are as follows: 100% of school administrators think that if they want to improve the quality of teaching hours, they should: It is necessary to strictly manage the design and use of lesson plans by teachers. However, school administrators also said that the management of lesson plans of the entire school staff, especially when preparing lessons with active teaching plans with the application of information and communication technology, is an important task. very difficult work.

4.4. Managing the application of information and communication technology in testing and assessing student learning outcomes

First of all, assessment is an important and indispensable tool in the educational process; has the function, adjusts the teaching and learning process, is the driving force to innovate teaching methods, contributes to improving and improving teaching quality. Evaluation has many meanings for learners, teachers as well as for administrators. Through assessment, it also helps students adjust their learning methods, knowledge and skills in subjects and motivates them to strive for better.

Using information and communication technology in innovation in testing and assessing student learning outcomes in schools helps to quickly check students' basic knowledge, more objective results, and more effective results. take advantage of opportunities for students to practice self-assessment and self-assessment skills. Applying information and communication technology makes managing student results more convenient.

5. Measures to manage the application of Information and Communication Technology in teaching method innovation in junior high schools

5.1. Measure 1: Develop and implement a plan to raise awareness for teachers about the importance of applying Information and Communication Technology in teaching

Make teachers and staff see the great role, the need to adjust their perspective on the application of Information and Communication Technology in teaching, especially the right awareness in the design and use of lesson plans. Active teaching with the application of Information and Communication Technology in teaching contributes to the

innovation of current teaching methods. On the basis of the right awareness, with the attention and direction of the unit's leaders, teachers voluntarily learn to improve their level of using information technology, actively design and use active teaching and learning. application of Information and Communication Technology.

Create unanimity and consensus in the cell, the management board, the leaders, the executive committee of the Trade Union, the secretary of the Youth Union, the General in charge of the Team. On that basis, forming a unified block, the common determination of the whole school's teachers and staff, from which to actively design and use this type of lesson plan.

5.2. Measure 2: Organize training courses for teachers in lower secondary schools on basic informatics knowledge and skills. Guide teachers to use teaching software and teachers know how to access the Internet effectively

Equip basic computer knowledge and skills in Information and Communication Technology for administrators, teachers and staff so that they can organize and apply well in their work. Create human resources in Information and Communication Technology to perform the tasks and requirements set out in the fields of Information and Communication Technology for the school.

From the school year 2020-2021: 100% of secondary school teachers in Bac Ninh province have proficiently used computers and some modern teaching equipment such as multi-function projectors, smart interactive whiteboards, etc. have some basic skills in exploiting and searching for materials on the Internet, be able to design and use active teaching lesson plans with the application of Information and Communication Technology and be able to use some teaching software to design electronic materials integrated into this lesson plan.

Administrators and teachers are able to use basic functions of some teaching software such as: Total Video Converter 3.12; Cabri; Maple; Study English 1.0; Crocodile Physics 605; Geometer's Sketchpad, Macromedia Flash; Violet software... uses the design of electronic materials to integrate into active teaching lesson plans.

Education leaders at all levels need to have a plan to train and foster informatics skills and skills in using teaching equipment for teachers in a synchronous manner and on an industry-wide scale. Organize refresher courses for teachers in informatics knowledge in order to design active

teaching plans with the application of Information and Communication Technology according to the following principles: Principles suitable to the conditions and abilities of teachers tablets; The principle is easy to apply to teachers; Specific principles for each teacher object, for each content.

5.3. Measure 3: Direct the development of the process of designing active teaching lesson plans with the application of information and communication technology

A standard process has been developed to apply to lower secondary teachers teaching in all subjects when designing active teaching lesson plans with the application of information and communication technology.

In order to develop a standard process that applies to lower secondary teachers teaching in all subjects when designing active teaching plans with the application of information and communication technology, the administrator Schools must introduce to teachers models of information and communication technology application in teaching innovation.

Measures to help staff and teachers have basic computer skills and teaching software skills to design active teaching plans with information and communication technology applications.

The principal directs the professional teams to put the content of active teaching plan design with the application of information and communication technology into professional activities. The way to proceed is as follows: teachers exchange and select lessons that can effectively apply information and communication technology in teaching method innovation, then assign design and construction into topics. , learn from experience and implement teaching. These lesson plans can be used to organize teaching activities in multimedia classrooms with high efficiency, meeting the requirements of current teaching methods innovation in junior high schools.

5.4. Measure 4: Make a long-term and specific plan for each year on investing in purchasing more modern teaching equipment, building multimedia classrooms to effectively apply information and communication technology in teaching

Develop a system of modern teaching equipment to meet the requirements of building multimedia classrooms and well serve the needs of teaching with active teaching lesson plans with the application of information and communication technology of the team. teachers of junior high schools in Bac Ninh province.

The first job that administrators need to do when managing the purchase of modern teaching equipment and building multimedia classrooms is to review all modern teaching equipment. that your school has, carefully check whether those devices are still usable. 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 then make a list to purchase. . Ensure that the equipment is purchased in sufficient quantity, correct in type and avoids unnecessary waste.

On the basis of the equipment to be purchased, the management staff estimates the cost to pay for the purchase of these equipment. Investing in modern teaching equipment and building multimedia classrooms is very expensive. Moreover, managing the use of modern teaching equipment and multimedia classrooms effectively is also very difficult.

5.5. Measure 5: Applying information and communication technology in testing and assessing the learning outcomes of junior high school students

Assessment is an important stage, an indispensable tool in the educational process; has the function, adjusts the teaching and learning process, is the driving force to innovate teaching methods, contributes to improving and raising the quality of teaching.

Evaluation has many meanings for learners, teachers as well as for administrators. For students, testing and evaluation create opportunities for them to think: Remember, summarize, generalize, systematize, apply, and also to self-assess the level of completion of learning tasks. as well as personal progress. Through assessment, it also helps students adjust their learning methods, knowledge and skills in subjects and motivates them to strive for better.

Applying information and communication technology in testing and assessing student learning results accurately and effectively as a basis for making important decisions in the application of information technology and communication in innovation of teaching methods in lower secondary schools.

Unify in directing the exploitation and use of information and communication technology in innovation of testing and assessing student learning outcomes in schools. Quickly check the basic knowledge of students, evaluate the results will be more objective. Take advantage of opportunities for

students to practice self-assessment skills. Improve the quality of teaching in junior high schools.

6. Discussion

In order to apply information and communication technology effectively in innovation of teaching methods in secondary schools in Bac Ninh province, it is necessary to: Have a policy to attract talents in the field of technology to work for the education sector. ; Establishing a team of experts specializing in research on the application of information and communication technology in innovating teaching methods for each subject, at each grade level; Regularly organize seminars and refresher courses on the application of information and communication technology (ICT) in information and communication technology in innovation of teaching methods for school administrators and teachers; To further strengthen the inspection and examination of the application of information and communication technology in the innovation of teaching methods of lower secondary schools.

7. Conclusion

Through studying the current situation of information and communication technology

application in junior high schools in Bac Ninh province, the author found that: Applying information and communication technology in teaching requires consistency from awareness of specific jobs, involvement of educational administrators, teachers and students. In which, playing an important role is the management staff, teachers of the schools. From this situation, the author has oriented research and proposed appropriate solutions in helping the management staff of junior high schools to manage the application of information and communication technology in innovation methods. effective teaching methods, contributing to innovating teaching methods in the direction of developing students' capacity, improving the quality of education, meeting the expectations of leaders and local people.

From the results of testing the necessity and feasibility of the measures, it shows that 05 proposed measures are completely suitable to be applied to the management of information and communication technology application in method innovation. teaching at secondary schools in Bac Ninh province.

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QUẢN LÝ ỨNG DỤNG CÔNG NGHỆ THÔNG TIN VÀ TRUYỀN THÔNG TRONG ĐỔI MỚI PHƯƠNG PHÁP DẠY HỌC Ở CÁC TRƯỜNG TRUNG HỌC CƠ SỞ CỦA TỈNH BẮC NINH ĐÁP ỨNG YÊU CẦU CỦA CHƯƠNG TRÌNH GIÁO DỤC PHỔ THÔNG TỔNG THỂ THỰC TRẠNG VÀ GIẢI PHÁP

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Nhận thức rõ tầm quan trọng của việc ứng dụng công nghệ thông tin và truyền thông trong đổi mới phương pháp dạy học, các trường trung học cơ sở của tỉnh Bắc Ninh đã triển khai nhiều biện pháp và bước đầu đạt được một số kết quả. Qua khảo sát, tác giả bài báo đã nêu thực trạng ứng dụng công nghệ thông tin và truyền thông trong đổi mới phương pháp dạy học, phân tích chi tiết những mặt mạnh, những mặt còn hạn chế, từ đó đề xuất hệ thống biện pháp ứng dụng công nghệ thông tin và truyền thông trong đổi mới phương pháp dạy học một cách thực chất và hiệu quả nhằm nâng cao chất lượng dạy học ở các trường trung học cơ sở của tỉnh Bắc Ninh.

Từ khóa: *Ứng dụng Công nghệ thông tin và truyền thông; Quản lý ứng dụng công nghệ thông tin và truyền thông; Đổi mới phương pháp dạy học; Các trường trung học cơ sở; Chương trình giáo dục phổ thông tổng thể.*